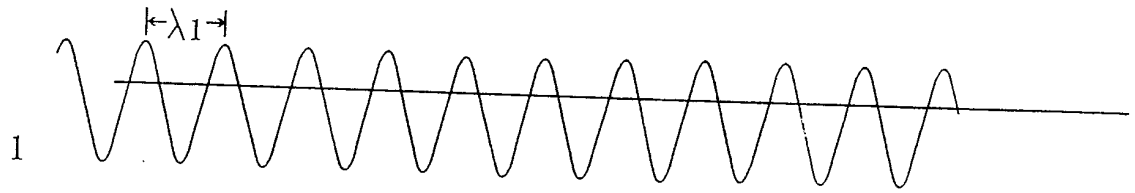


Fig. 1a

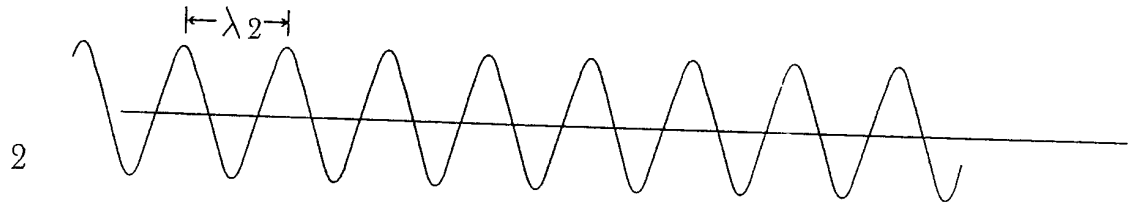


Fig. 1b

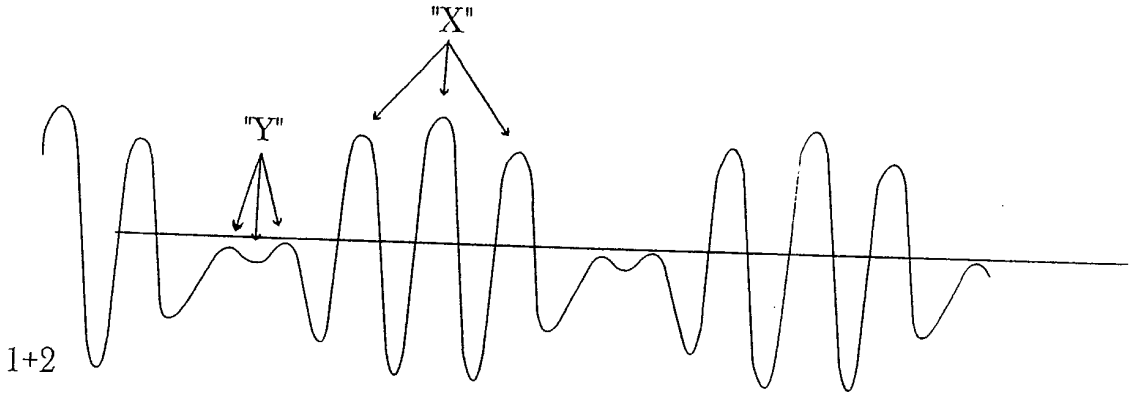


Fig. 1c

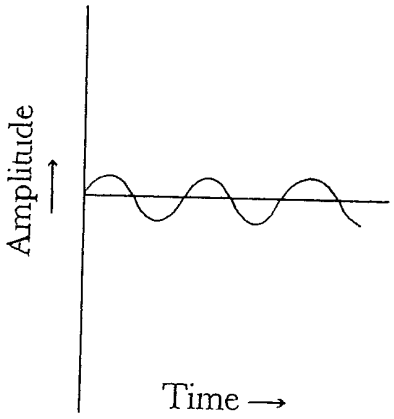


Fig. 2a

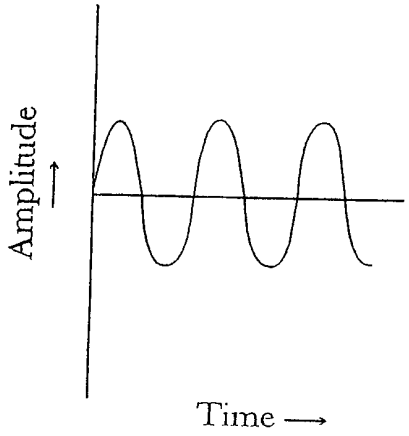


Fig. 2b

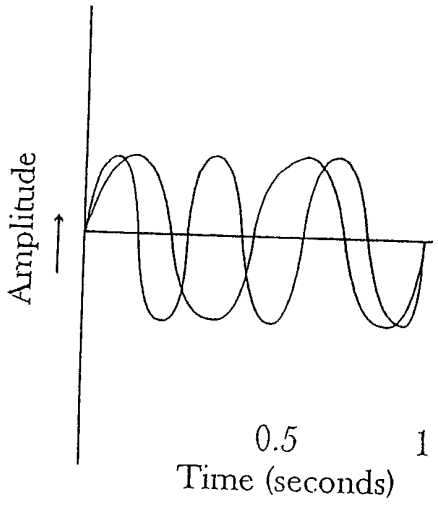


Fig. 3a

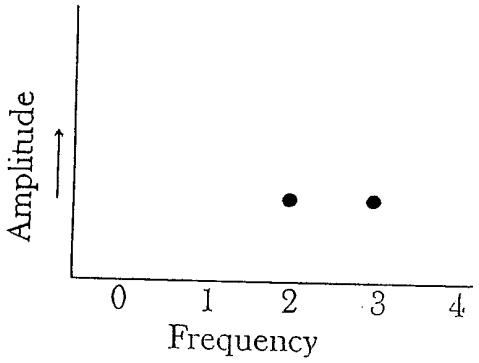


Fig. 3b

Initial Frequencies (Hz)		
400	and	100
400 + 100 = 500	and	400 - 100 = 300
500 + 300 = 800	and	500 - 300 = 200
800 + 200 = 1000	and	800 - 200 = 600
1000 + 600 = 1600	and	1000 - 600 = 400

Sum (Added) Frequencies (Hz)	Difference (Subtracted) Frequencies (Hz)
400	100
500	300
800	200
1000	600
1600	400
2000	1200
3200	800

Fig. 4

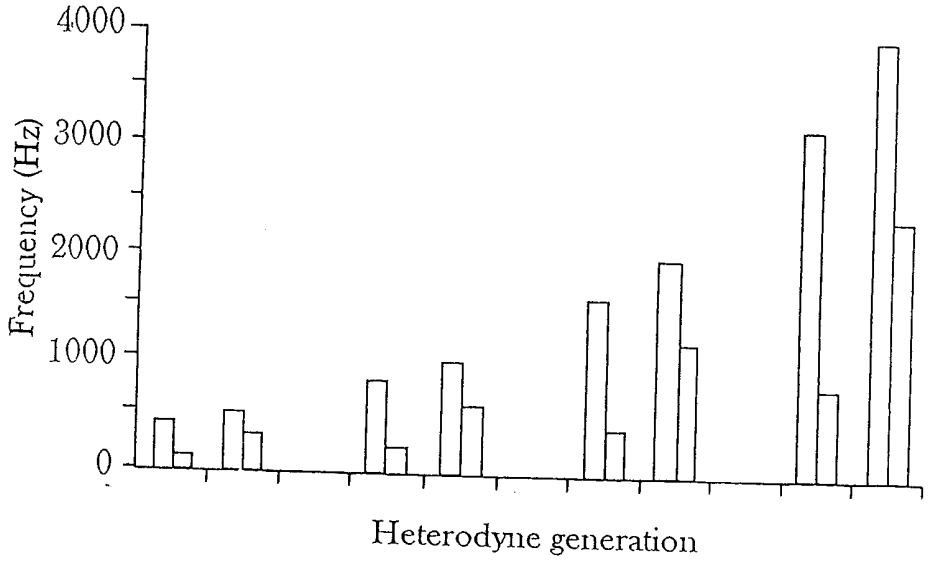


Fig. 5

Fig. 6d

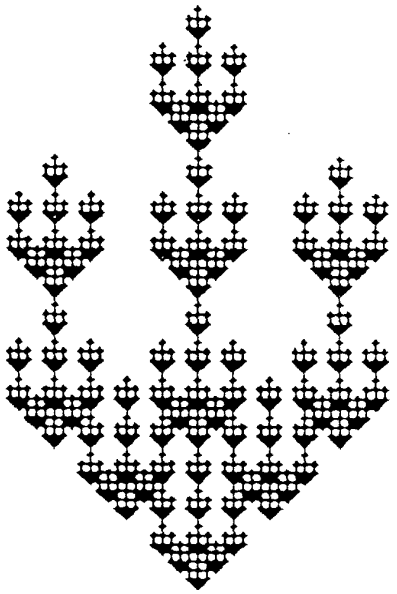


Fig. 6c

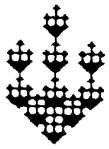


Fig. 6b

Fig. 6a

Fig. 7a

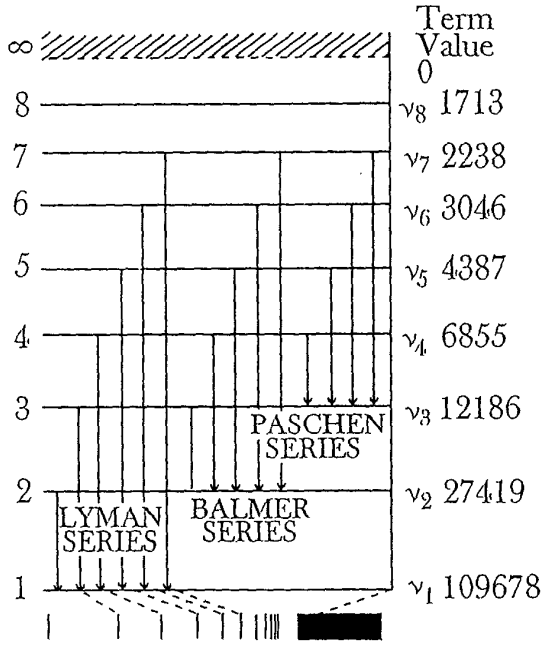


Fig. 7b

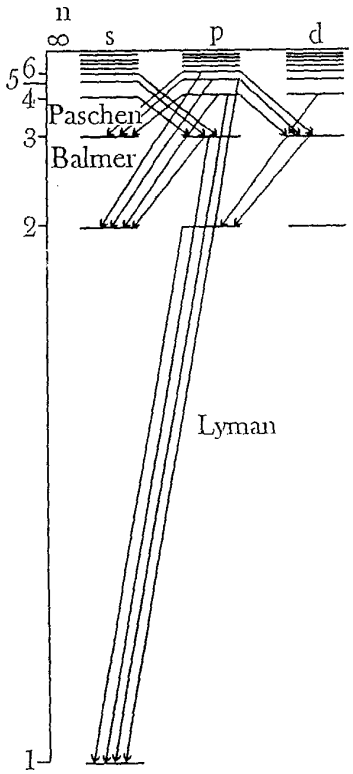


Fig. 8a

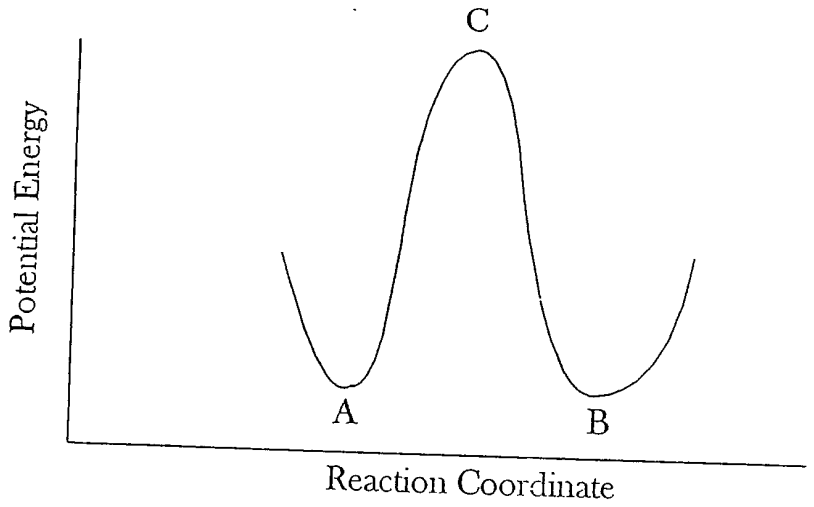


Fig. 8b

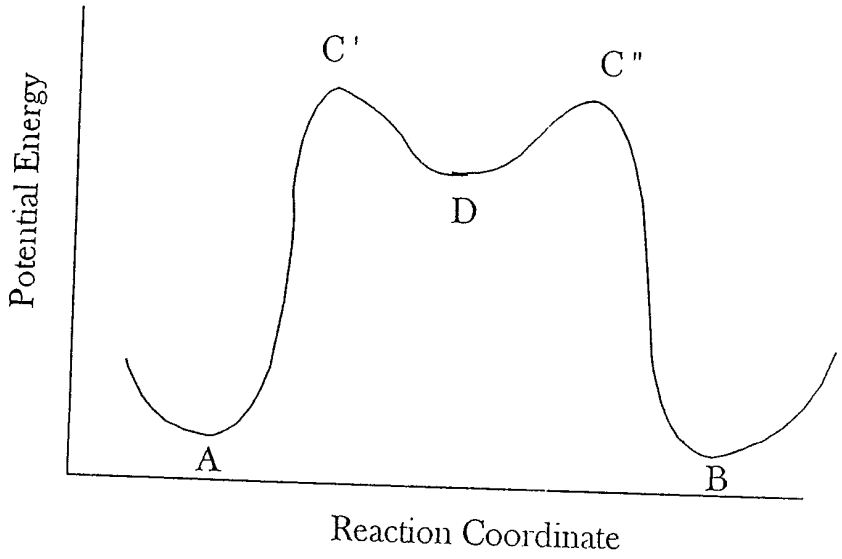
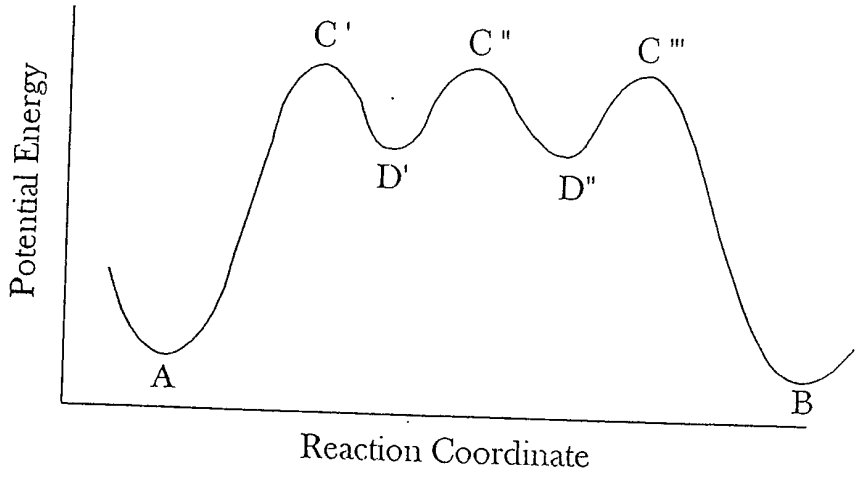


Fig. 8c



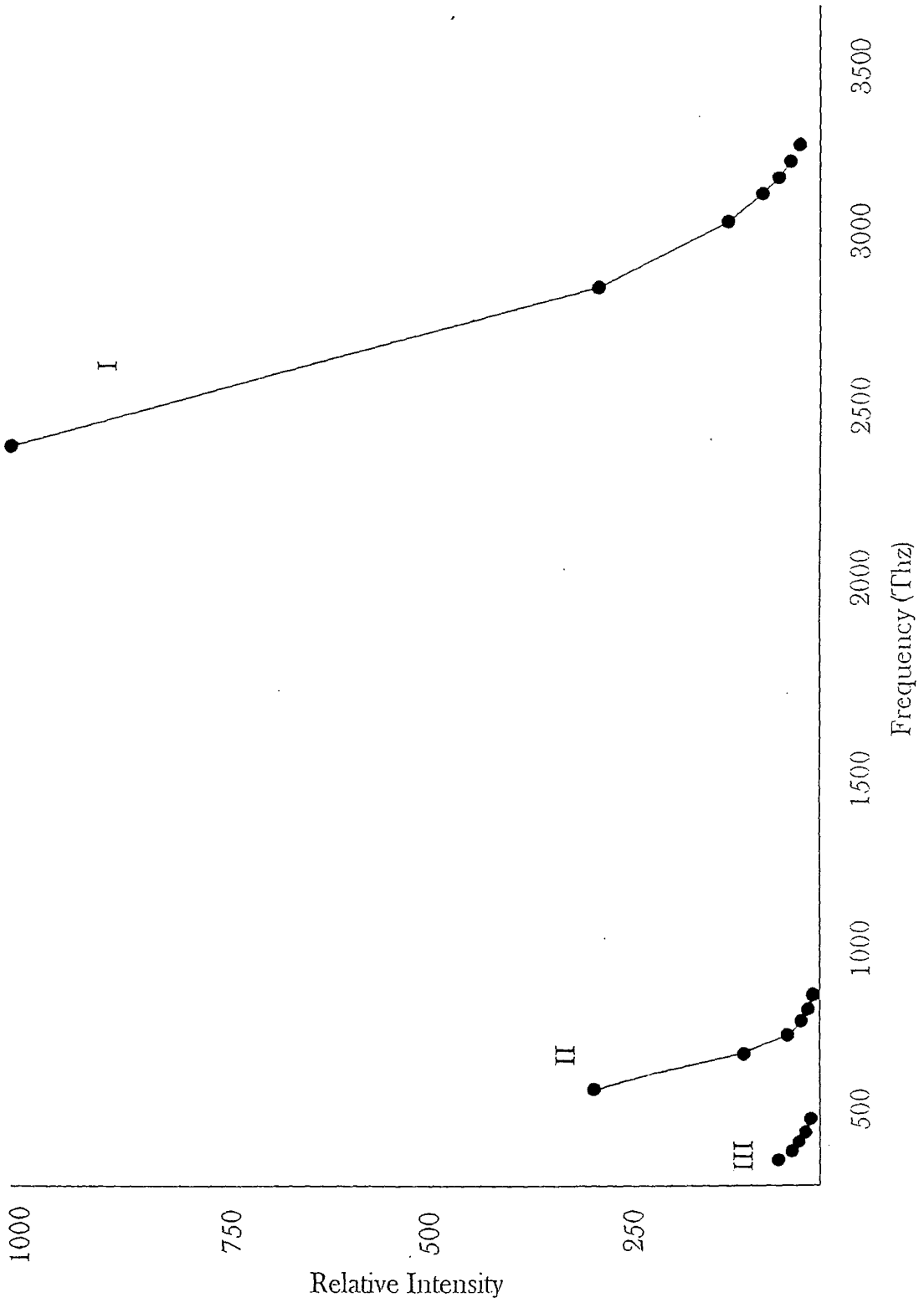

1000
750
500
250
Relative Intensity
500
1000
1500
2000
2500
3000
3500
Frequency (Thz)
I
II
III

Fig. 9a

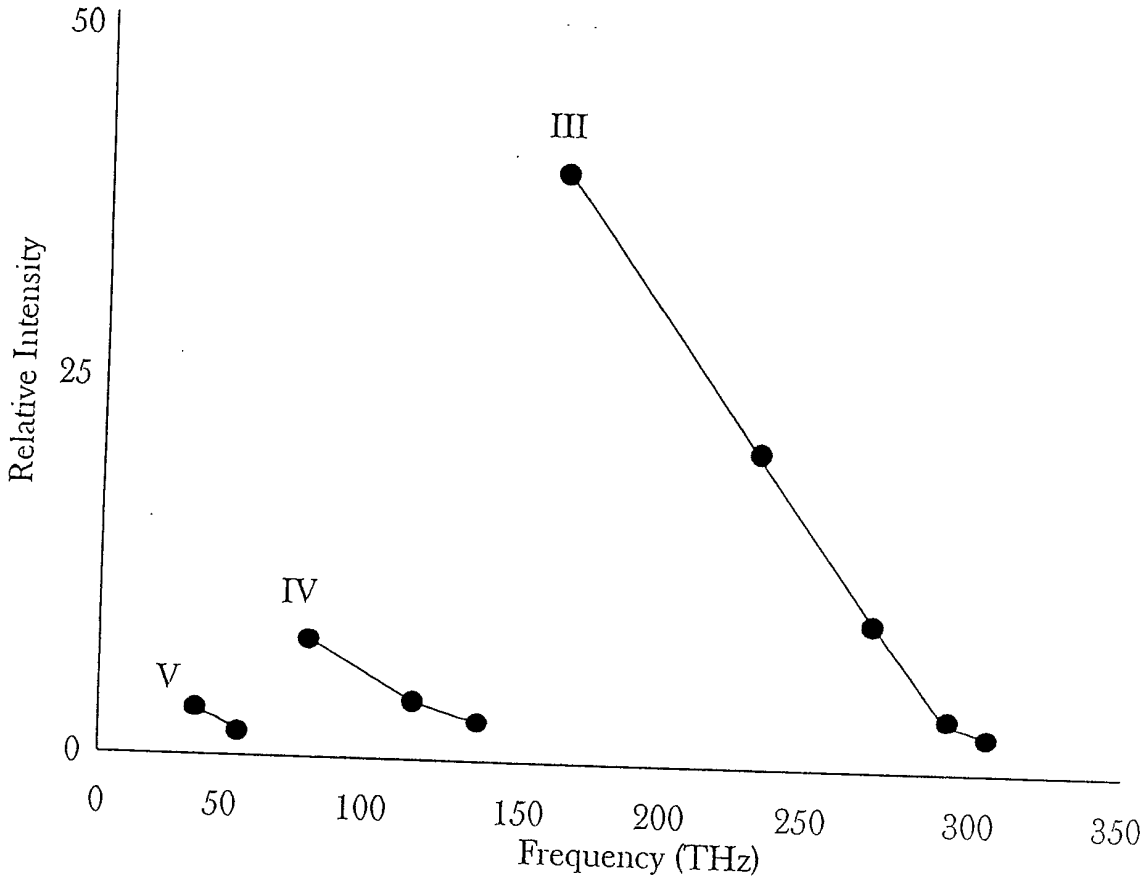


Fig. 9b

Frequency Curves - THz (relative intensity)

V	IV	III	II	I
40 (6)	74 (15)	160 (40)	456 (300)	2466 (1000)
64 (4)	114 (8)	234 (20)	616 (80)	2923 (300)
	138 (5)	274 (12)	690 (30)	3082 (100)
		298 (7)	731 (15)	3156 (50)
		314 (5)	755 (8)	3196 (30)
			770 (6)	3220 (20)
			781 (5)	3236 (15)

Fig. 10

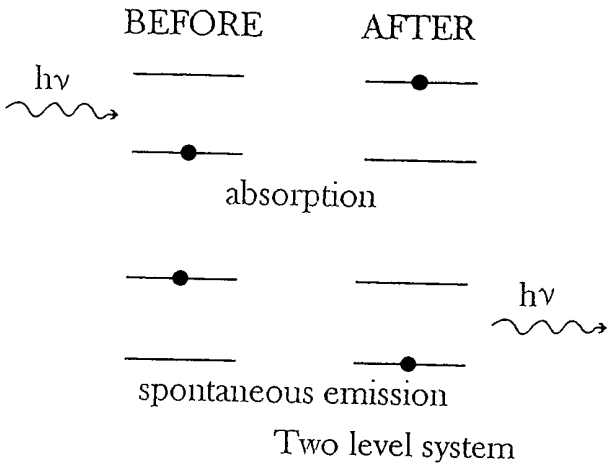


Fig. 11a

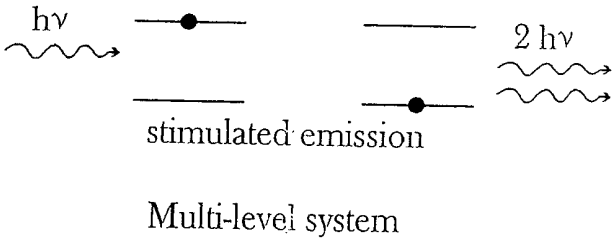


Fig. 11b

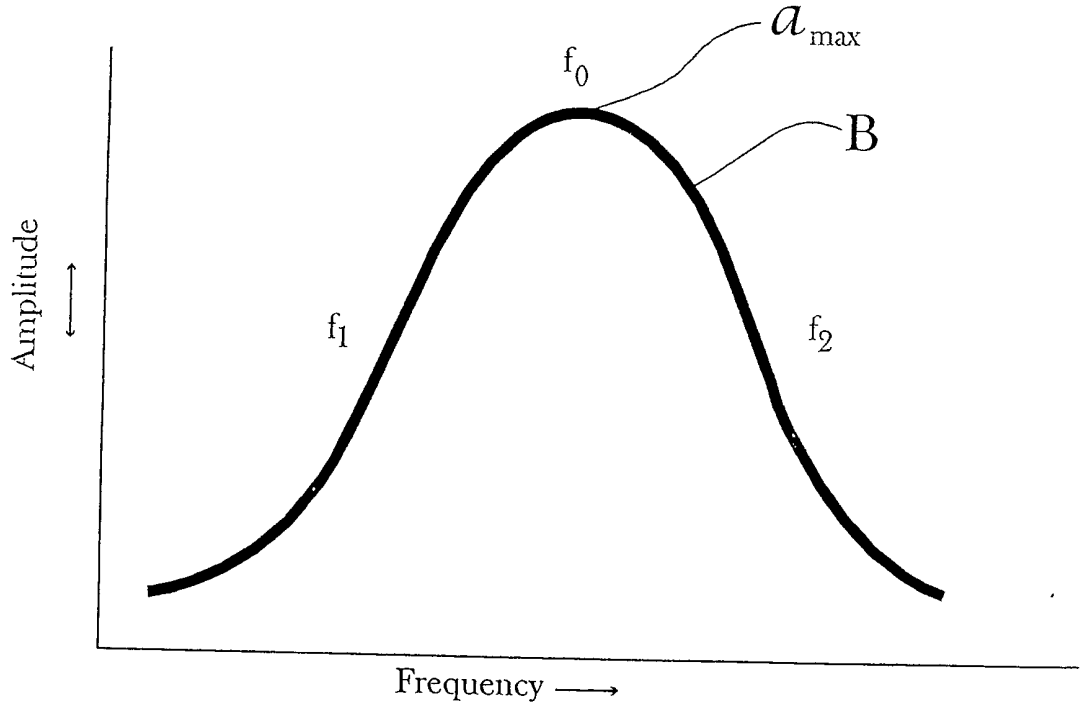
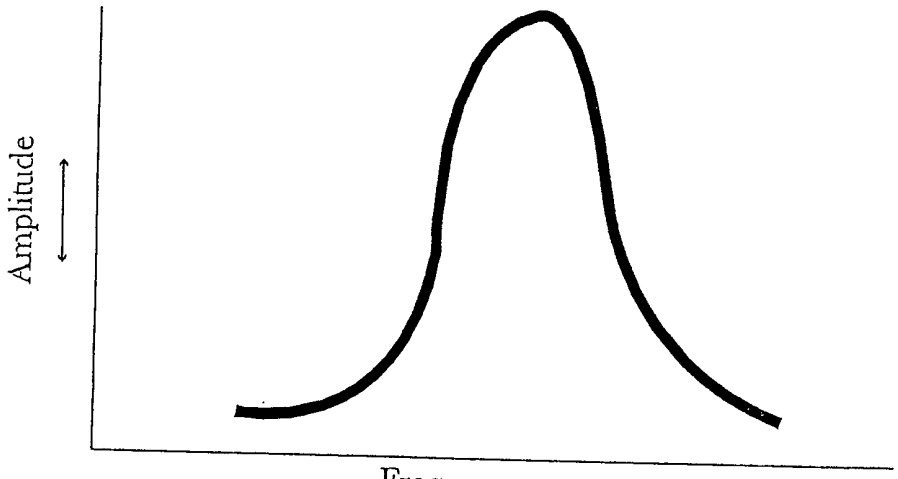
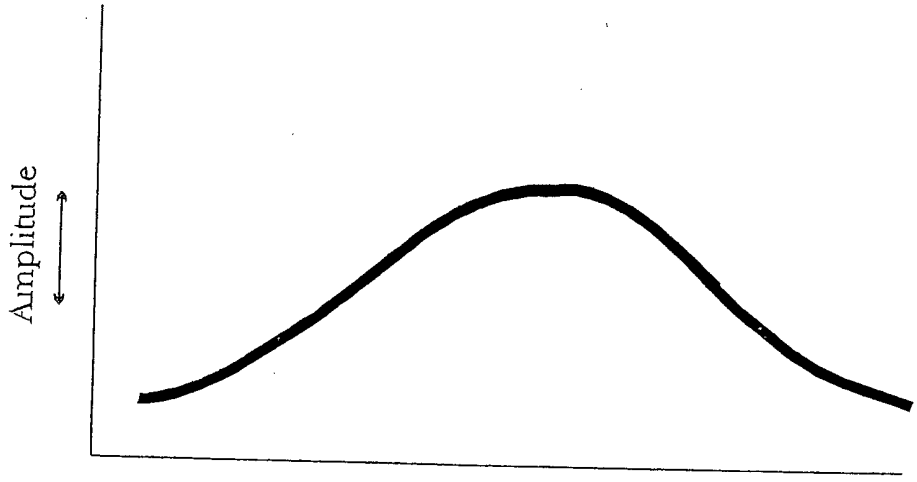


Fig. 12



Resonance curve with high Q

Fig. 13a



Resonance curve with low Q

Fig. 13b

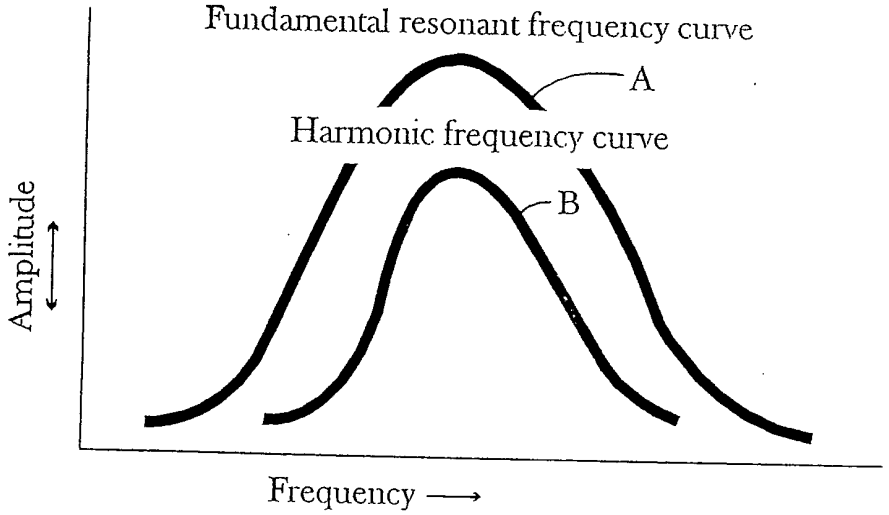
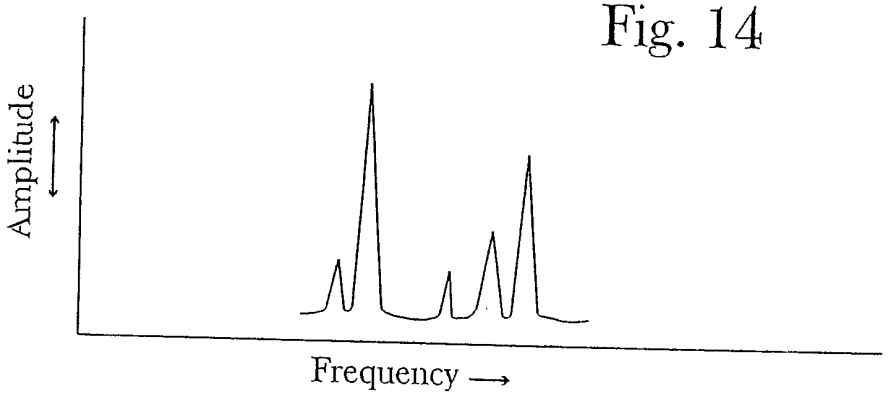
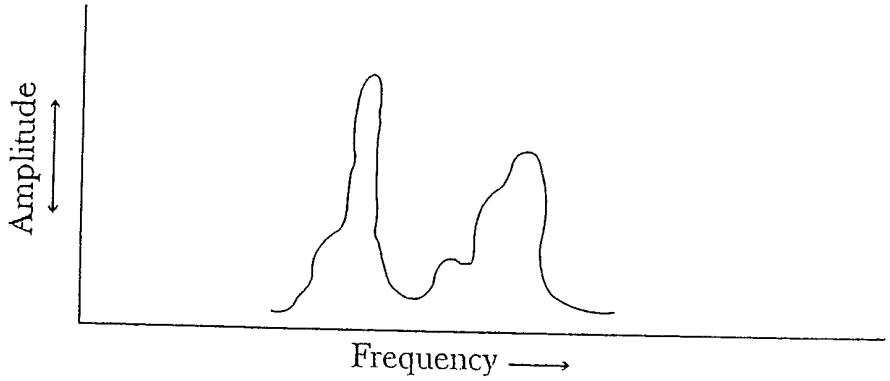


Fig. 14



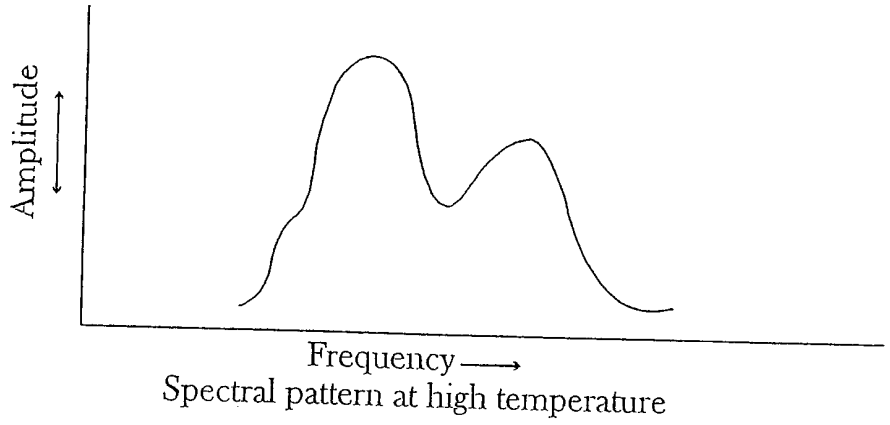
Spectral pattern at low temperature

Fig. 15a



Spectral pattern at moderate temperature

Fig. 15b



Spectral pattern at high temperature

Fig. 15c

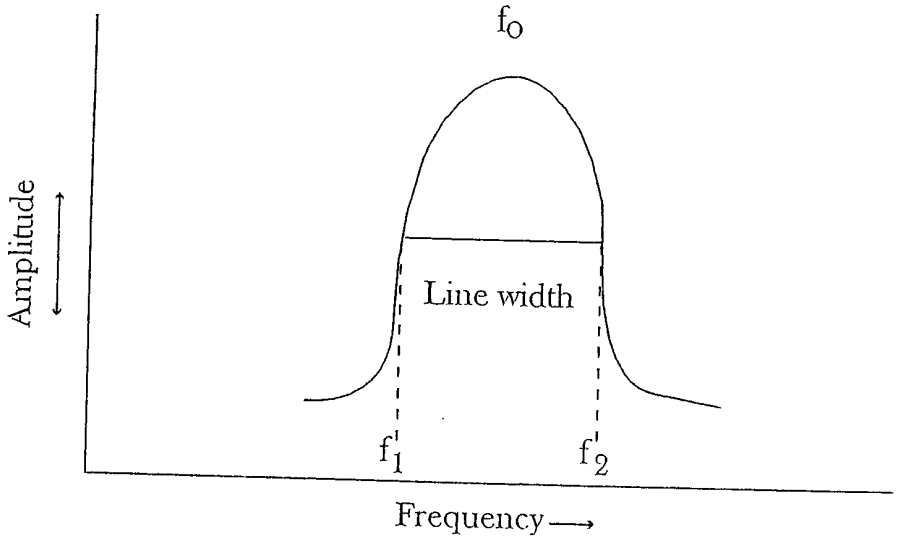
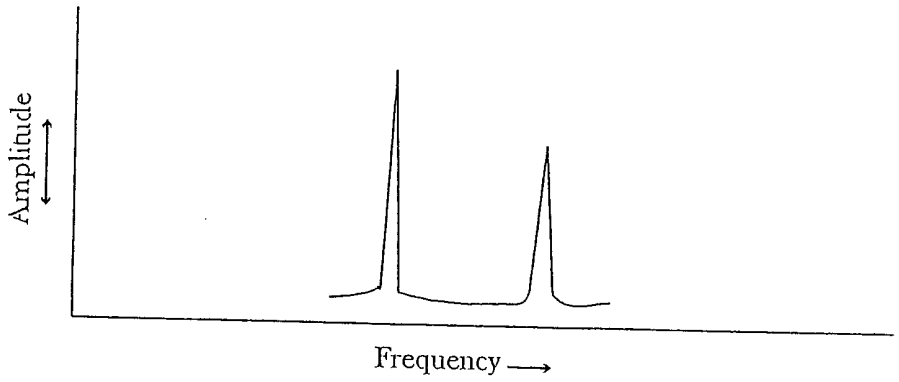
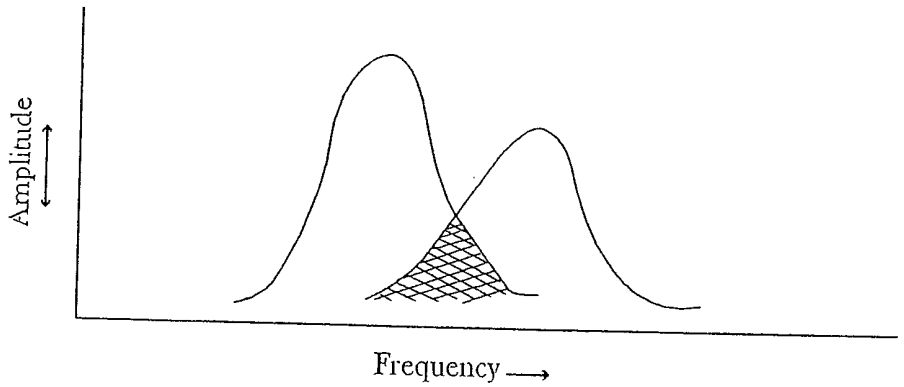


Fig. 16



Separate and distinct spectral curves at low temperature

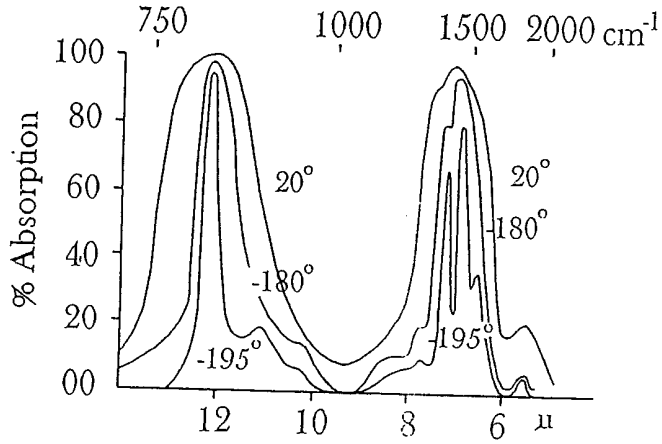
Fig. 17a



Overlapping spectral curves at higher temperature, allowing resonant energy transfer

Fig. 17b

Fig. 18a



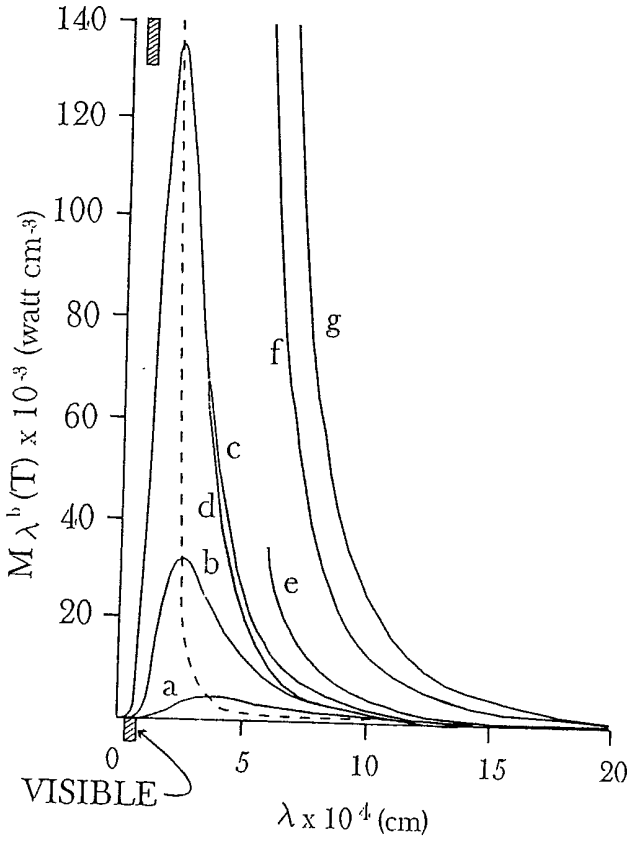
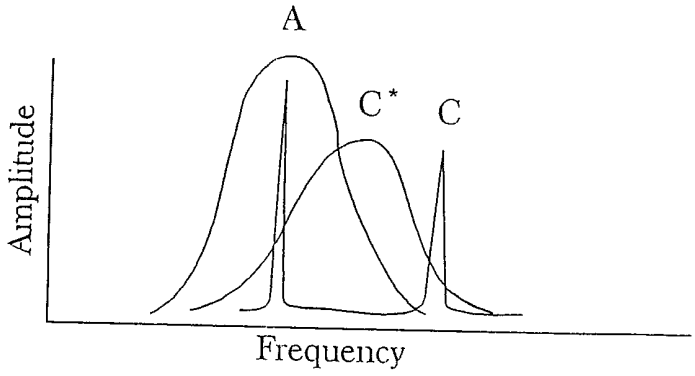


Fig. 18b

Fig. 18c



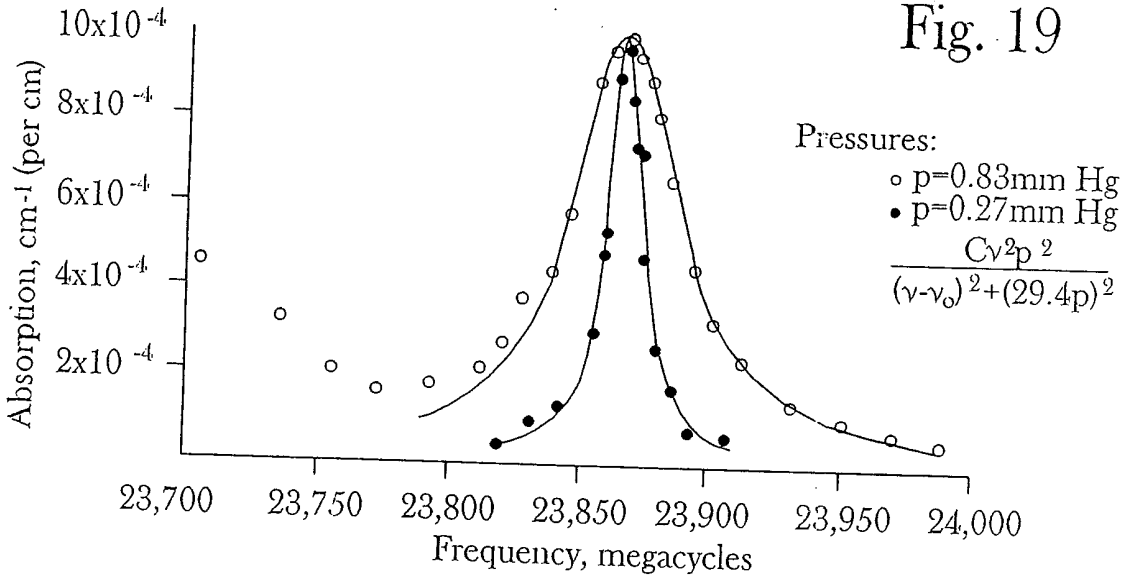


Fig. 19

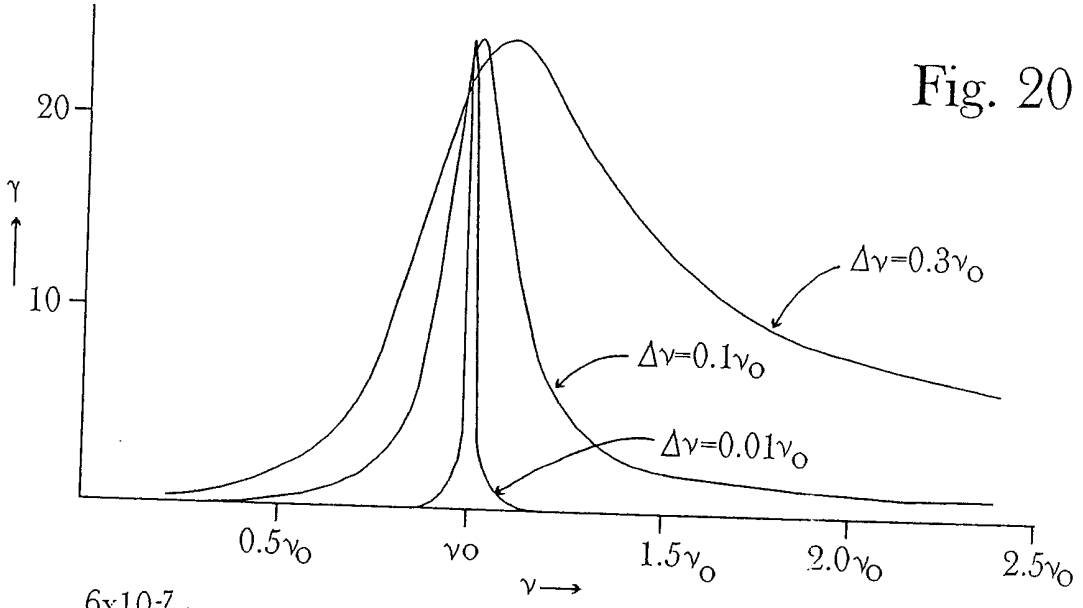


Fig. 20

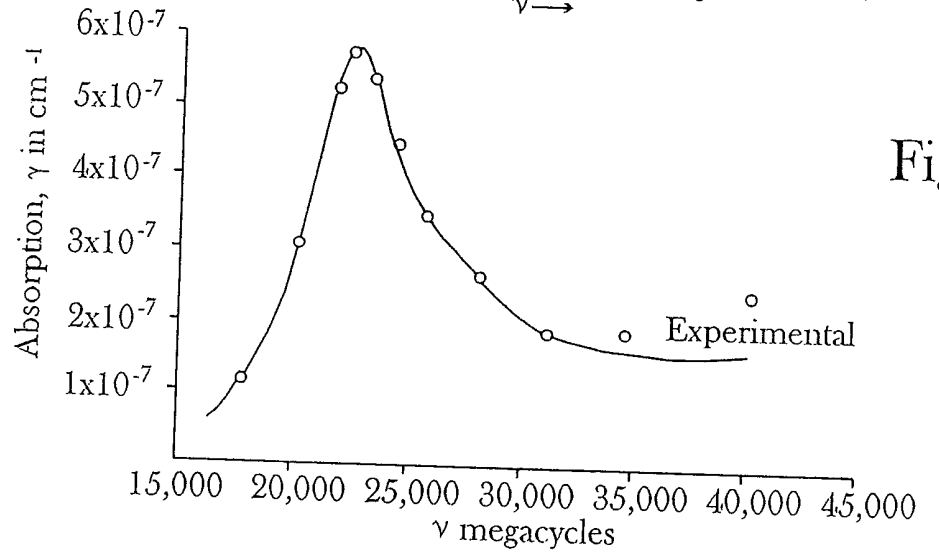


Fig. 21a

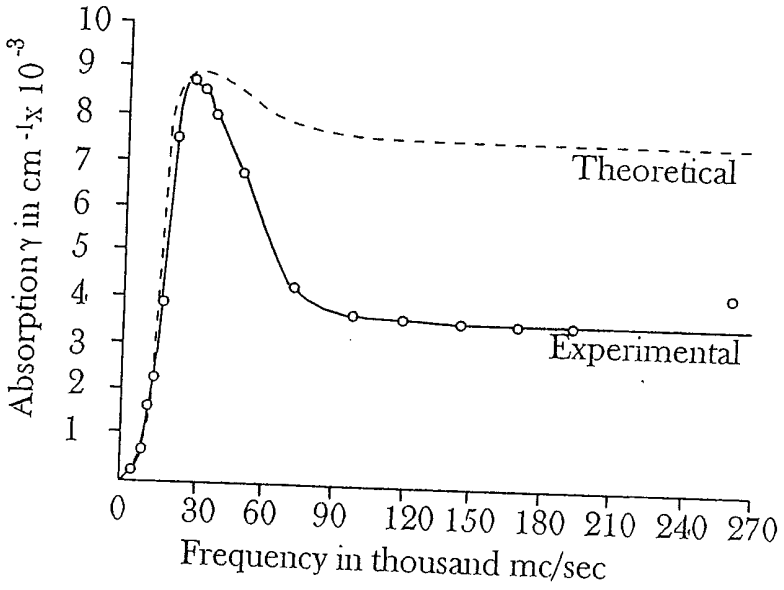


Fig. 21b

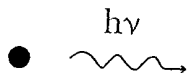


Fig. 22a

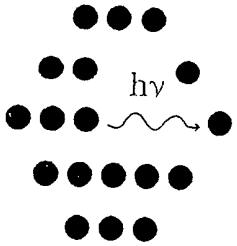


Fig. 22b

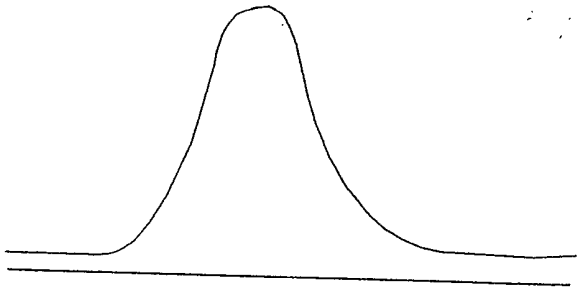


Fig. 23a

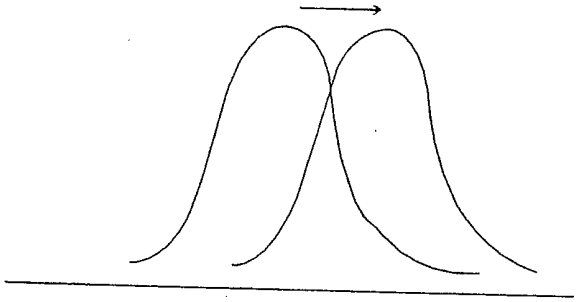


Fig. 23b

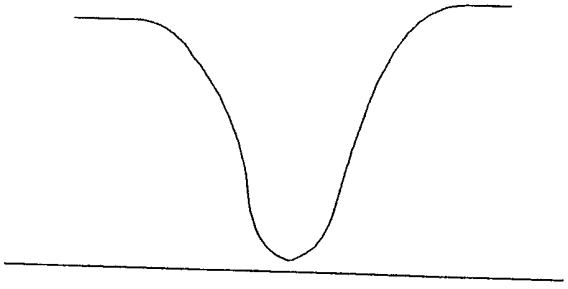


Fig. 23c

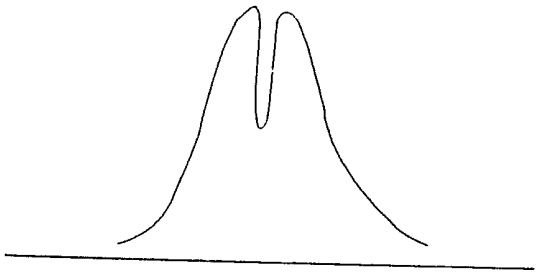


Fig. 23d

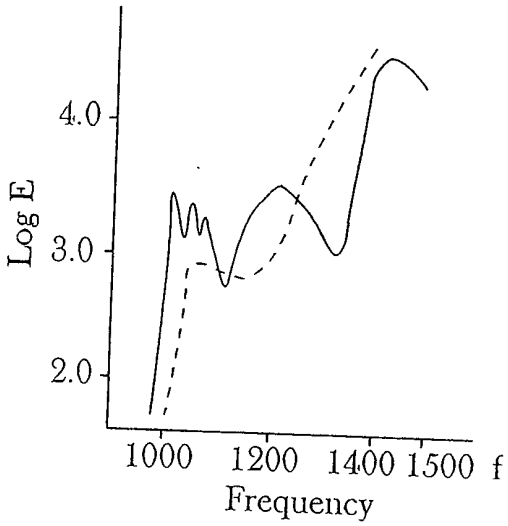


Fig. 24a

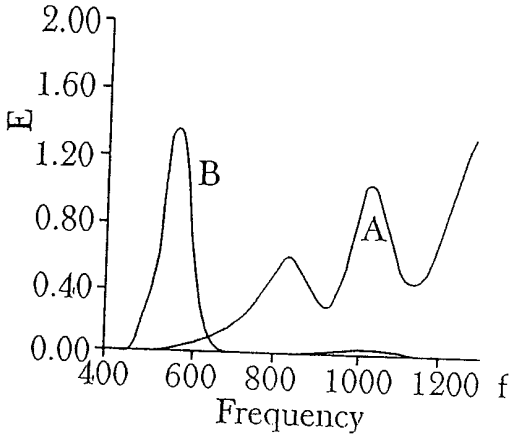


Fig. 24b

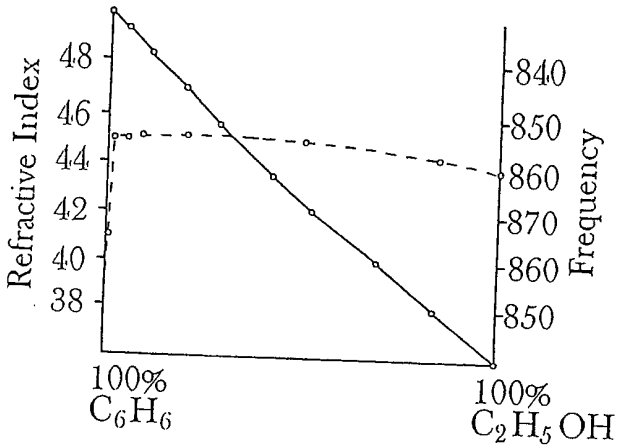


Fig. 24c

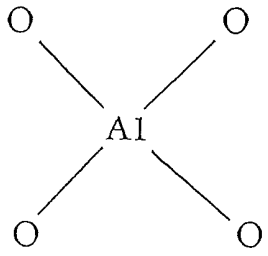


Fig. 25a

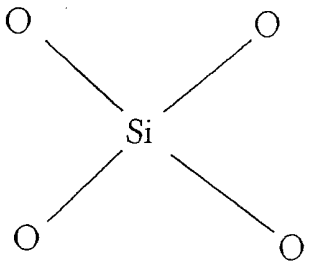


Fig. 25a

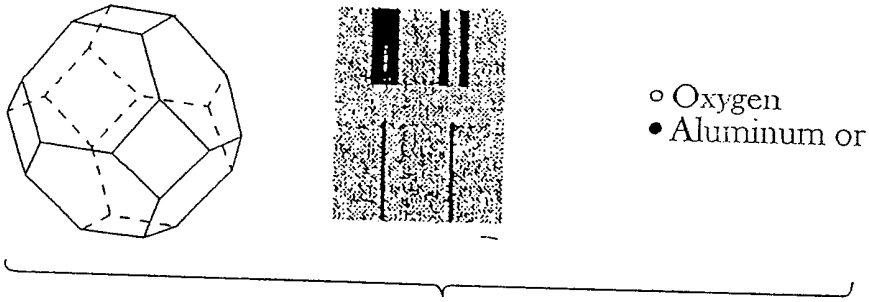


Fig. 26a

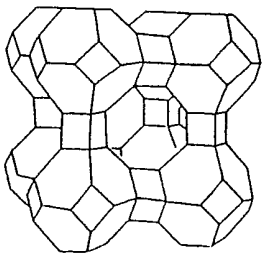


Fig. 26b

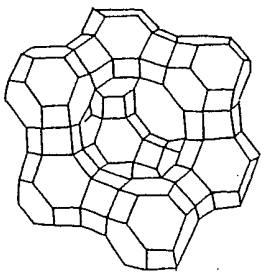


Fig. 26c

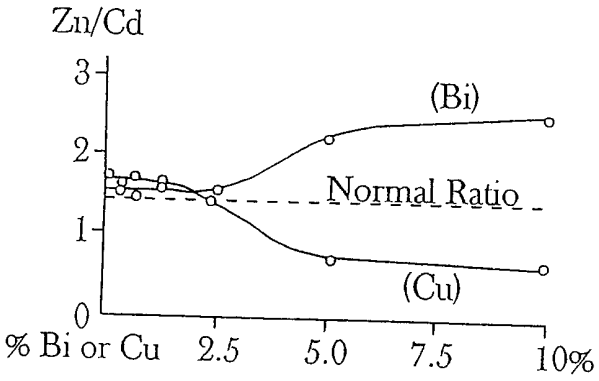
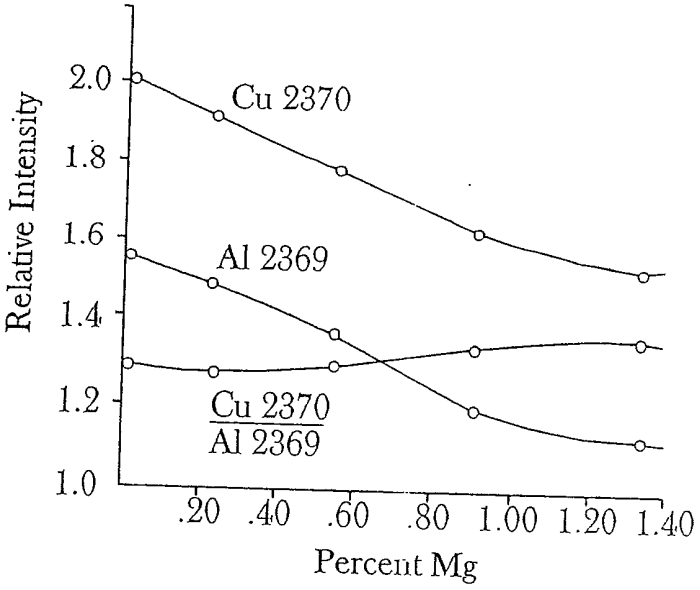


Fig. 27

Fig. 28



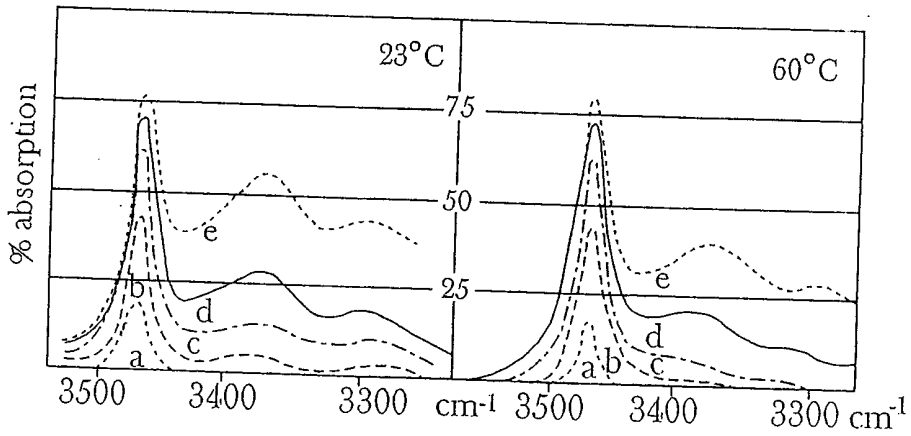


Fig. 29

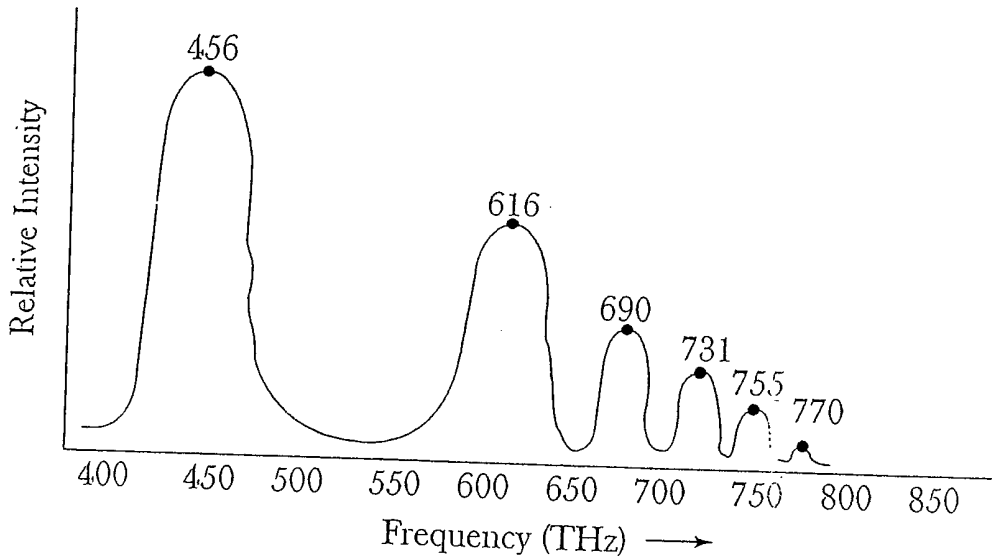
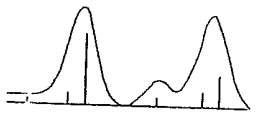
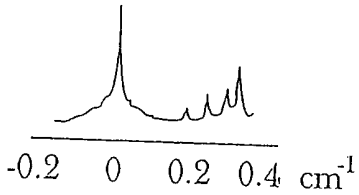


Fig. 30a



Emission spectrum
T = 50K

Fig. 30b



High resolution spectrum

Fig. 31

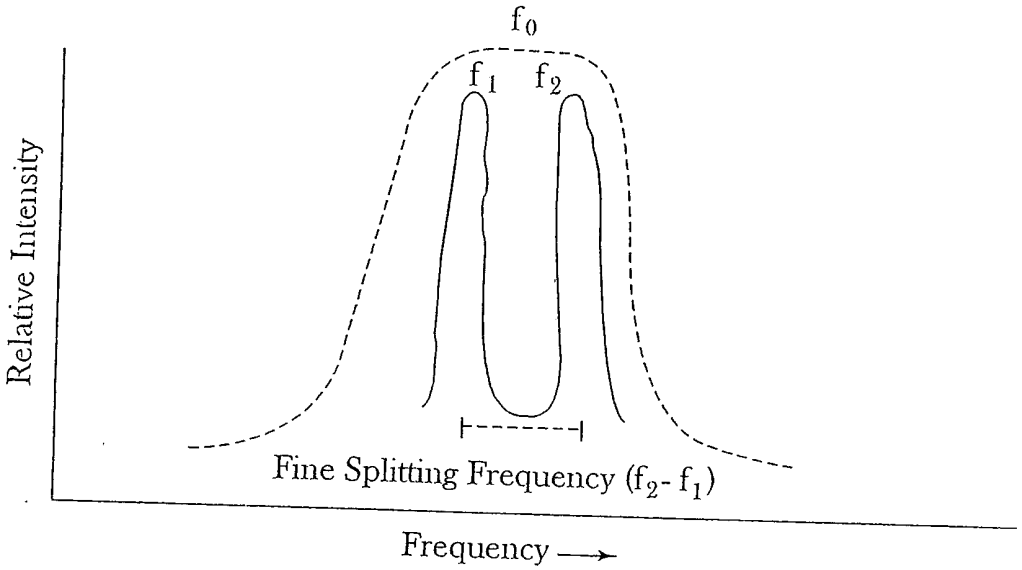

f_0
f_1
f_2
Relative Intensity
Fine Splitting Frequency (f_2- f_1)
Frequency

Fig. 32

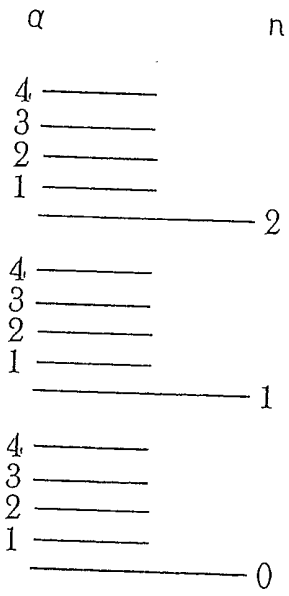

α
n
4
3
2
1
2
4
3
2
1
1
4
3
2
1
0

Fig. 33

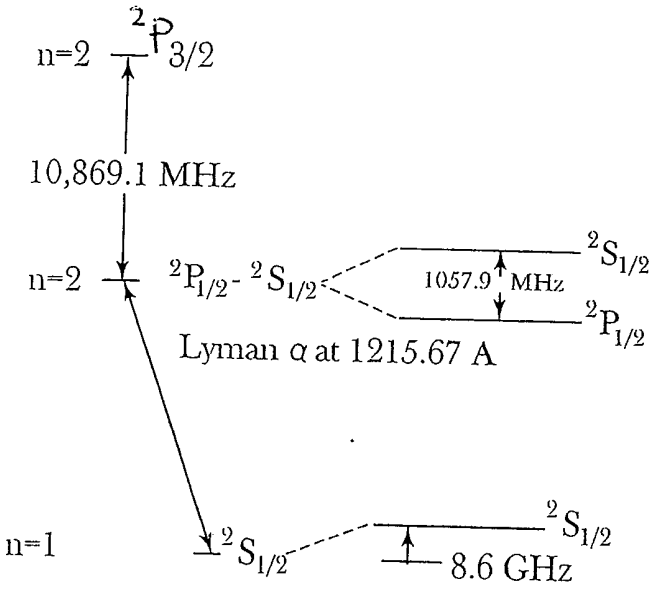


Fig. 34

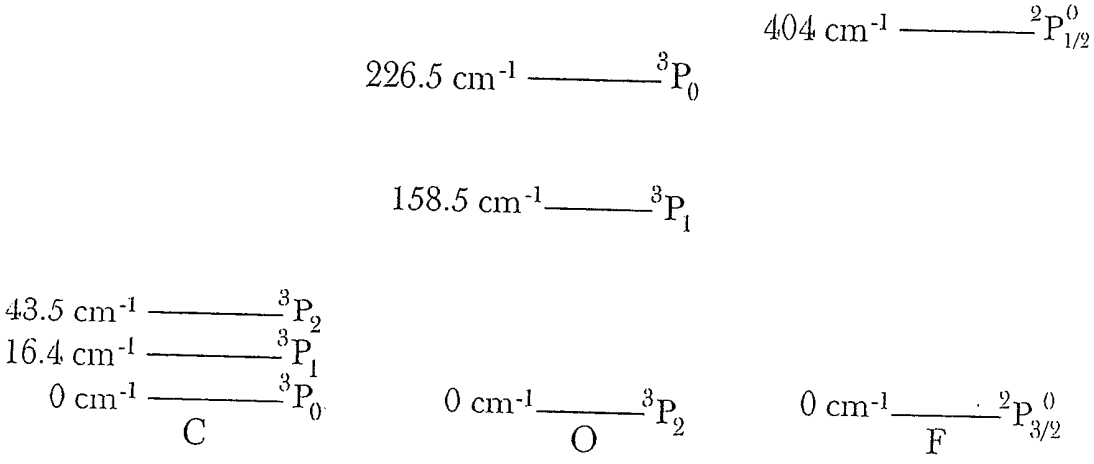
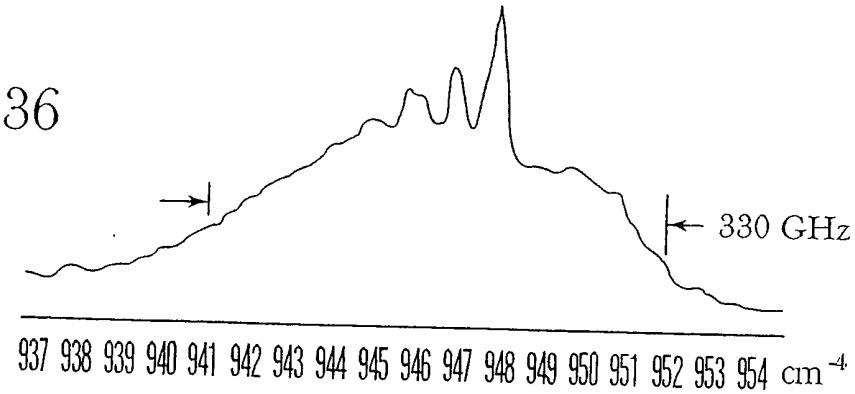


Fig. 35

Fig. 36



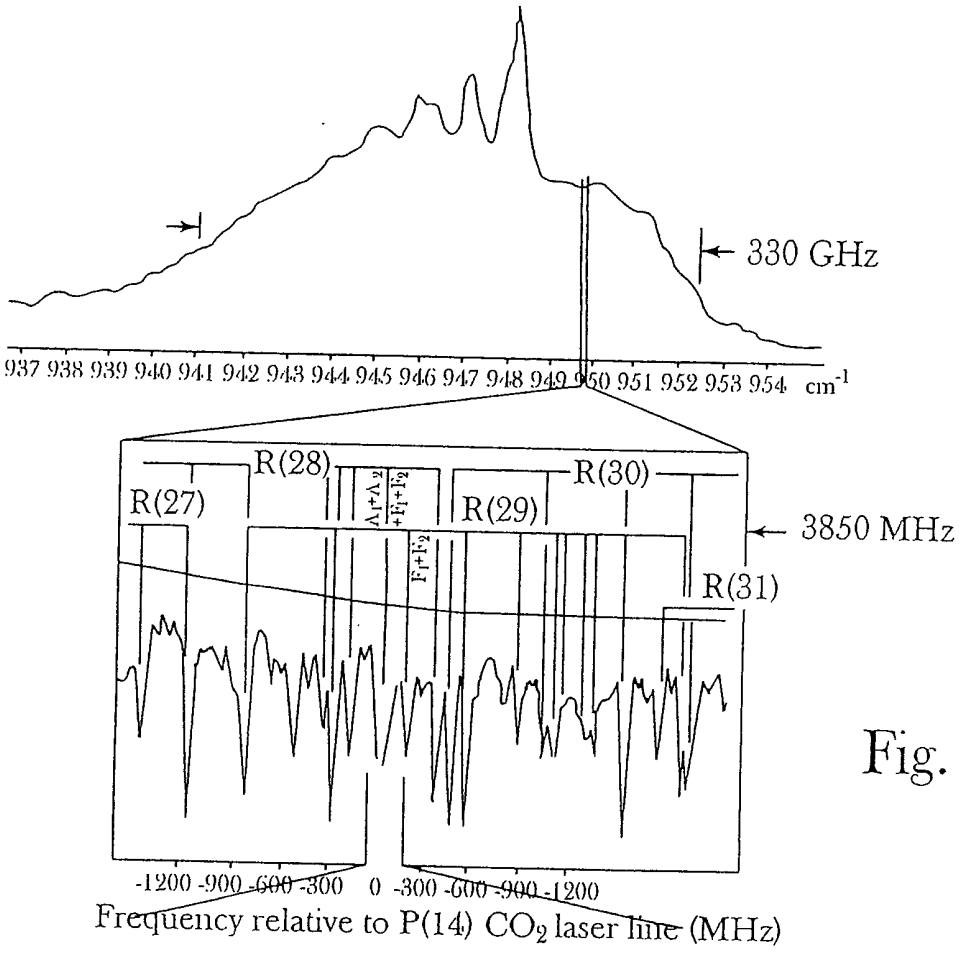


Fig. 37a

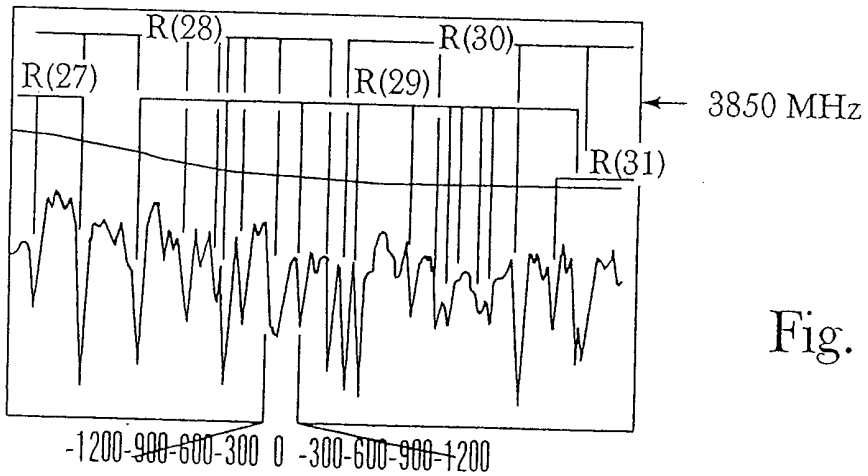


Fig. 37b

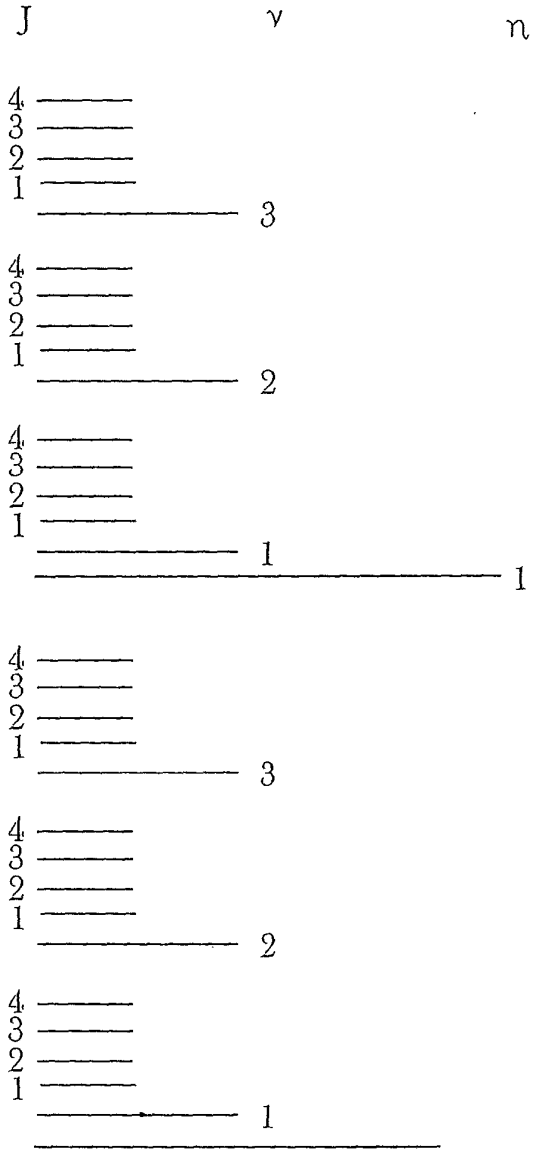


Fig. 38

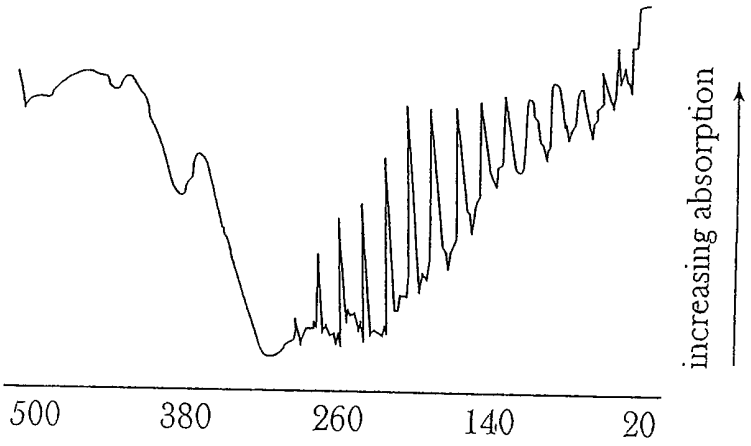
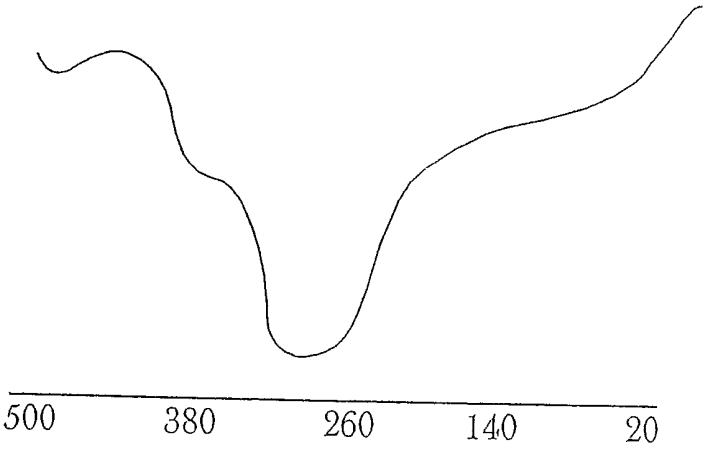


Fig. 39a

Fig. 39b



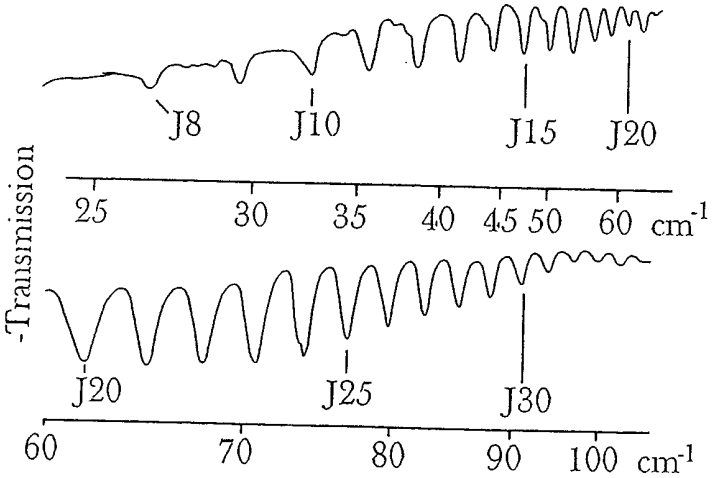


Fig. 40

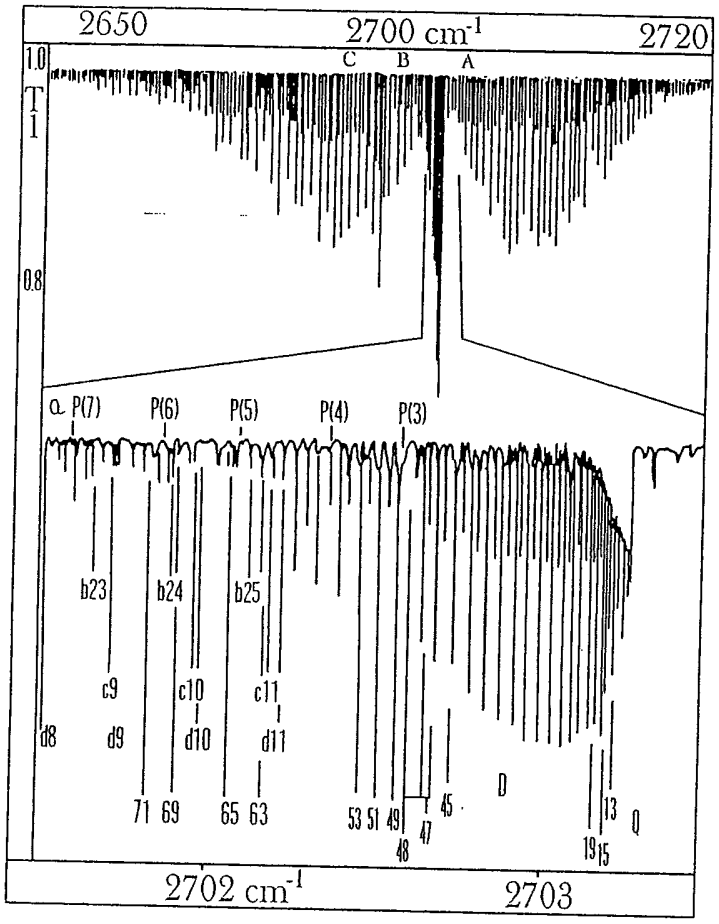
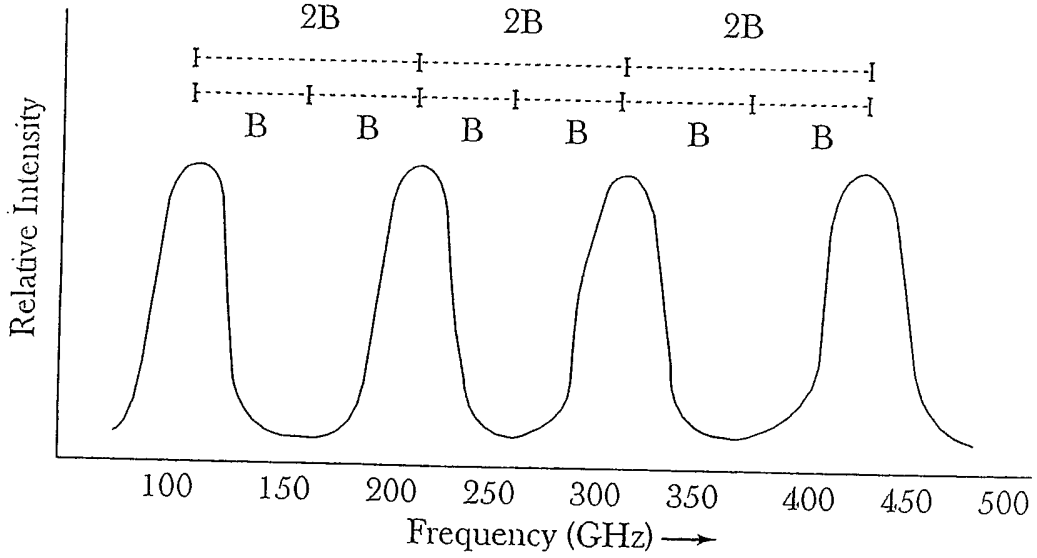

2650
2700 cm-1
2720
1.0
T
1
0.8
C
B
A
a P(7)
P(6)
P(5)
P(4)
P(3)
b23
b24
b25
c9
c10
c11
d8
d9
d10
d11
71 69
65 63
53 51 49
48
47
45
D
19
15
13
Q
2702 cm-1
2703

Fig. 41

Fig. 42


2B
2B
2B
B
B
B
B
B
B
Relative Intensity
100
150
200
250
300
350
400
450
500
Frequency (GHz) ⟶

Rotational and Vibrational Frequencies for LiF

Rotational Transition				
0→1	89,740.46	88,319.18	86,921.20	
1→2	179,470.35	176,627.91	173,832.04	171,082.27
2→3	269,179.18	264,915.79	260,722.24	256,597.84
3→4	358,856.19	353,172.23	347,581.39	342,082.66
4→5	448,491.07			
Vibrational Level	0	1	2	3

Fig. 43a

Rotational and Vibrational Frequencies for LiF

Differences Between Rotational And Vibrational Frequencies (MHz) For LiF

Rotational Transition				
0→1	1,421.28	1,397.98		
1→2	2,842.44	2,795.87	2,749.77	
2→3	4,263.39	4,193.55	4,124.40	
3→4	5,683.96	5,590.84	5,498.73	
4→5	7,104.24			
Vibrational Level	0	1	2	3

Fig. 43b

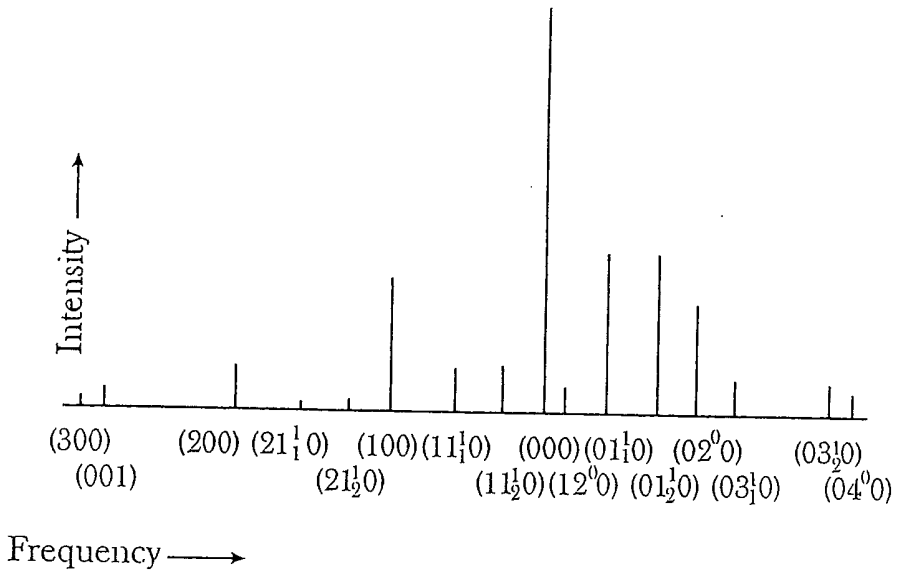

Intensity
(300)
(001)
(200)
(100)
(000)
Frequency

Fig. 44

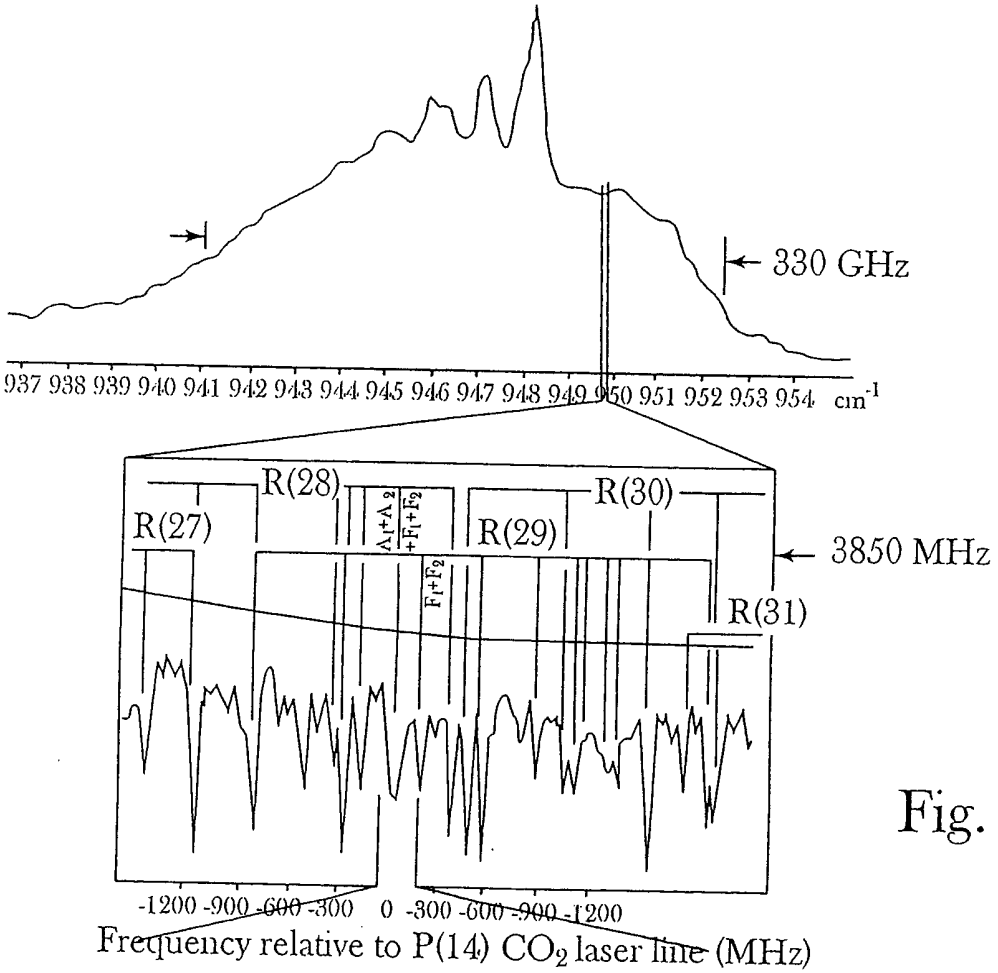

330 GHz
937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 cm-1
R(27)
R(28)
R(29)
R(30)
R(31)
3850 MHz
-1200 -900 -600 -300 0 -300 -600 -900 -1200
Frequency relative to P(14) CO2 laser line (MHz)

Fig. 45

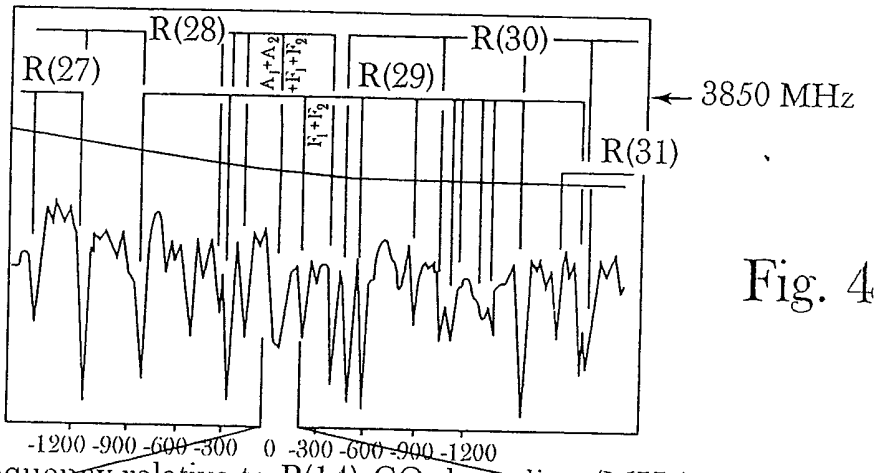


Fig. 46

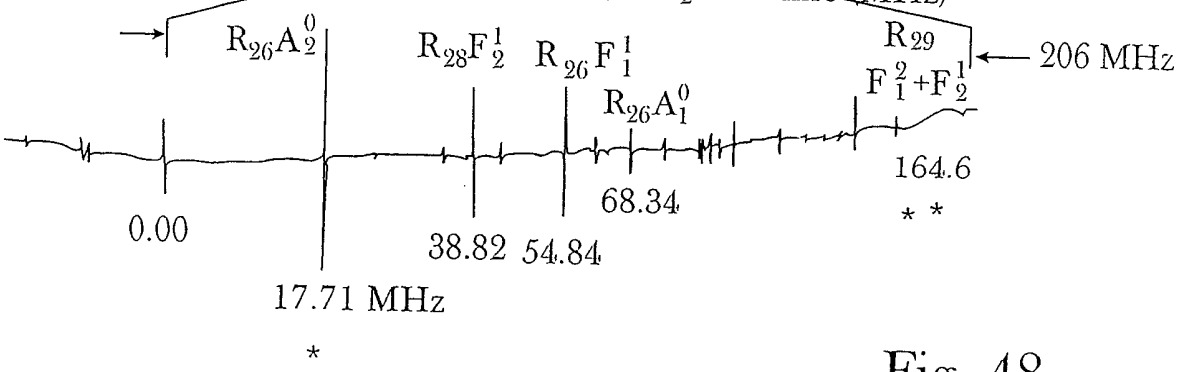
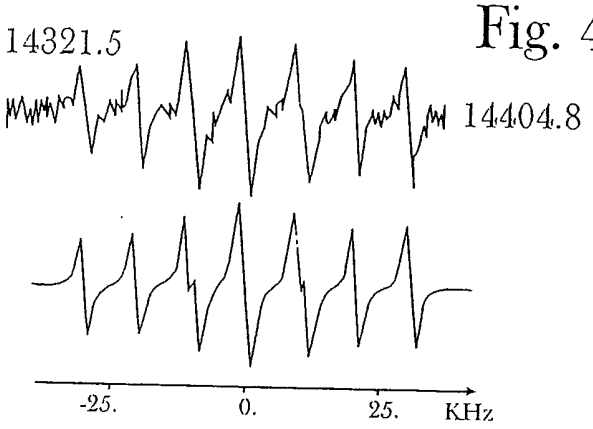
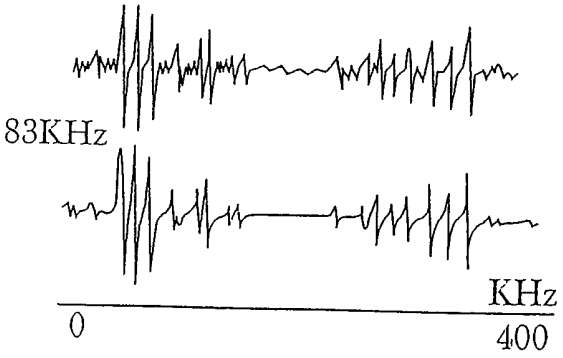


Fig. 48

Fig. 47a





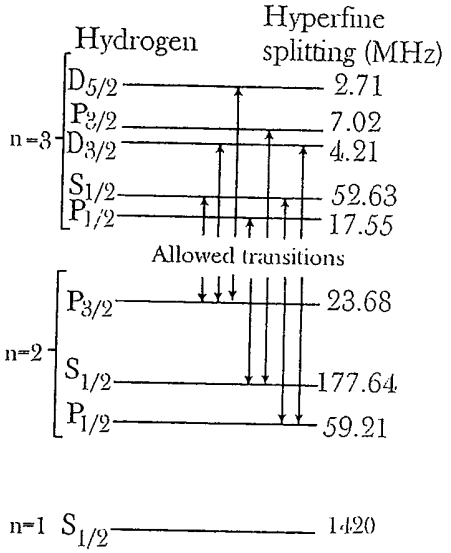
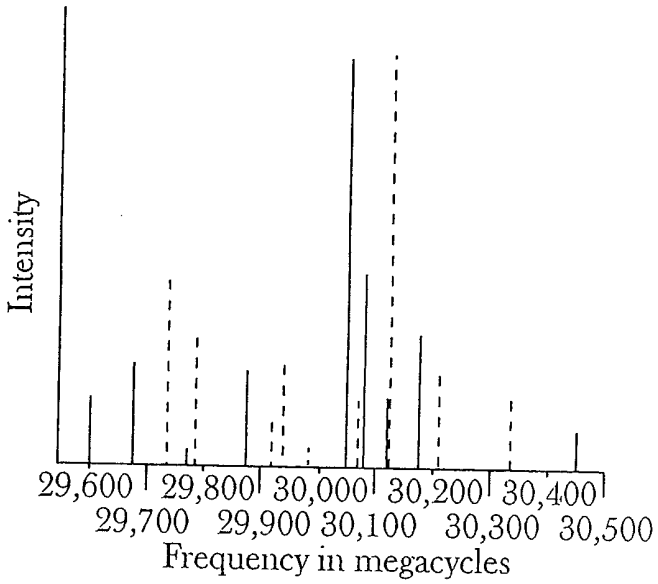


Fig. 47b

Fig. 49


Intensity
29,600
29,700
29,800
29,900
30,000
30,100
30,200
30,300
30,400
30,500
Frequency in megacycles

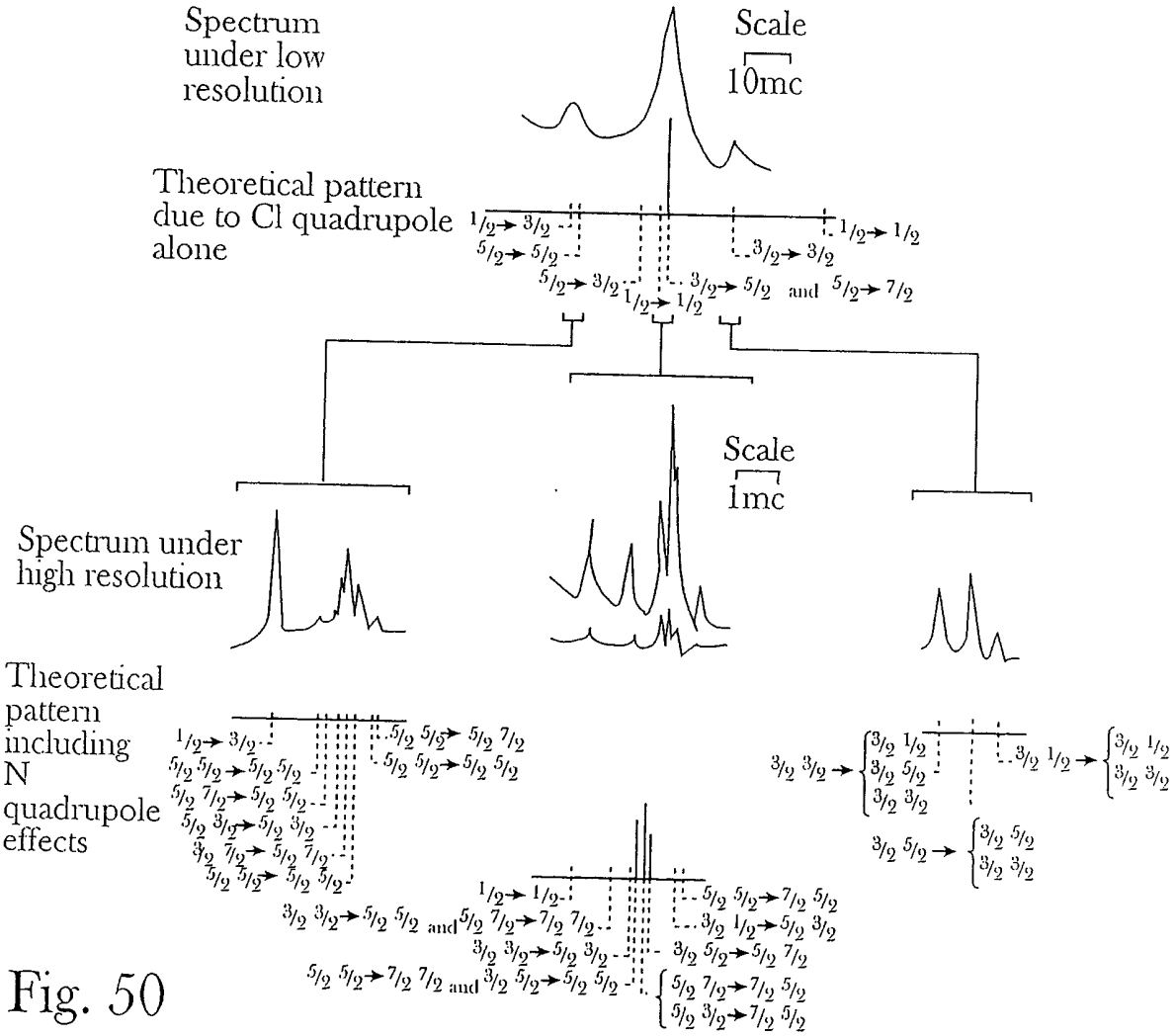

Spectrum under low resolution
Scale
10mc
Theoretical pattern due to Cl quadrupole alone
Scale
1mc
Spectrum under high resolution
Theoretical pattern including N quadrupole effects

Fig. 50

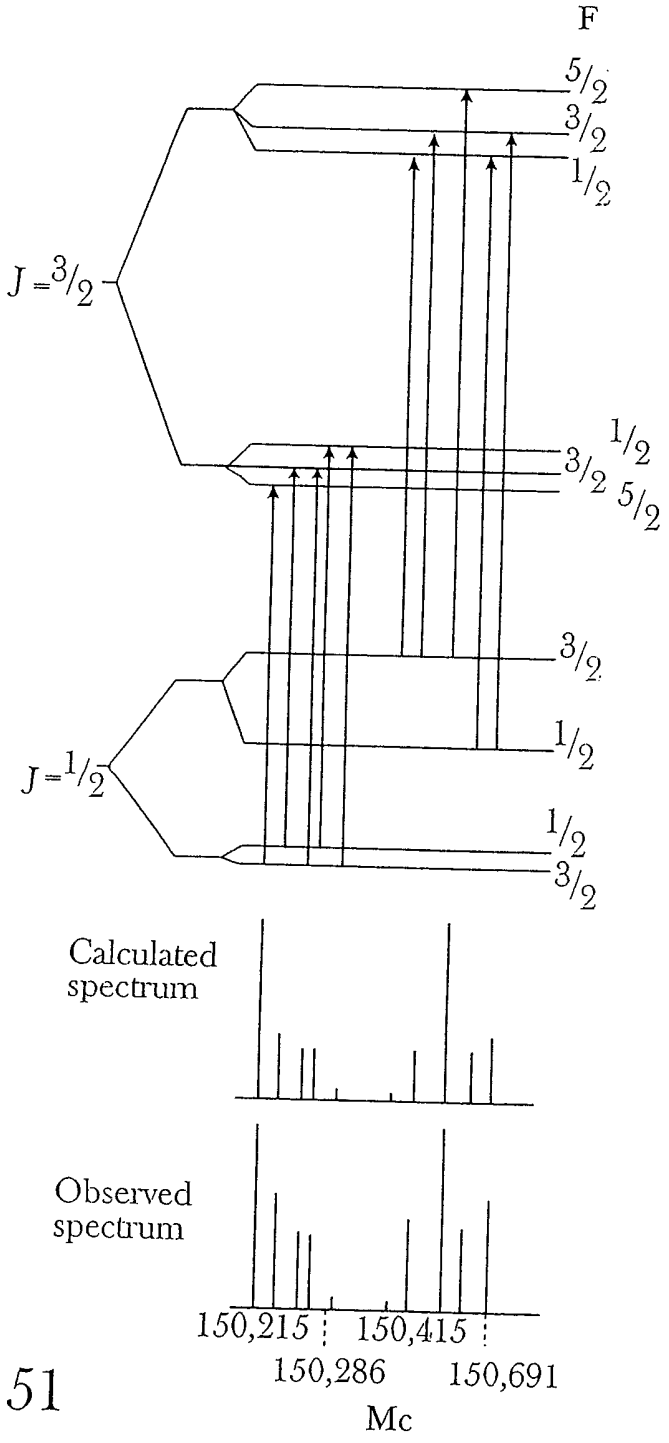

F
5/2
3/2
1/2
J=3/2
1/2
3/2
5/2
3/2
1/2
J=1/2
1/2
3/2
Calculated spectrum
Observed spectrum
150,215
150,415
150,286
150,691
Mc

Fig. 51

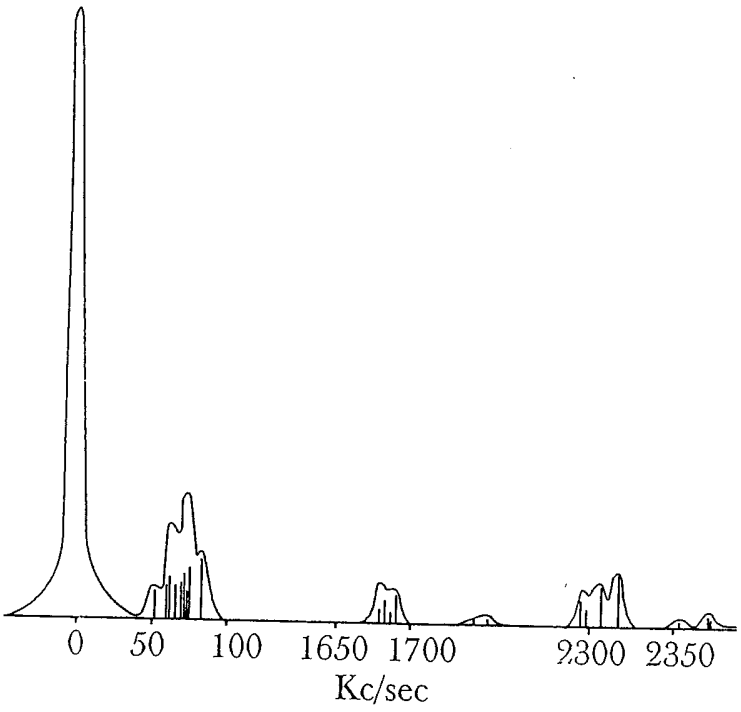


Fig. 52

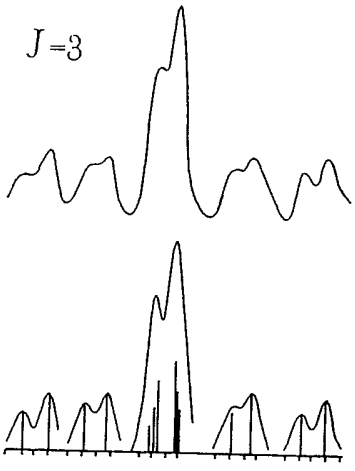


Fig. 53

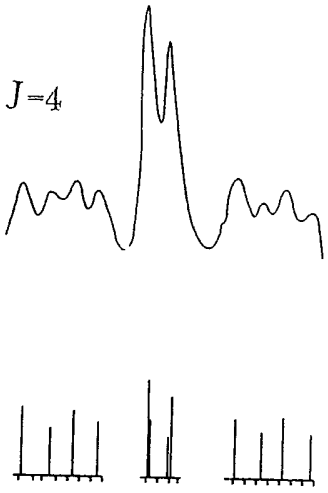
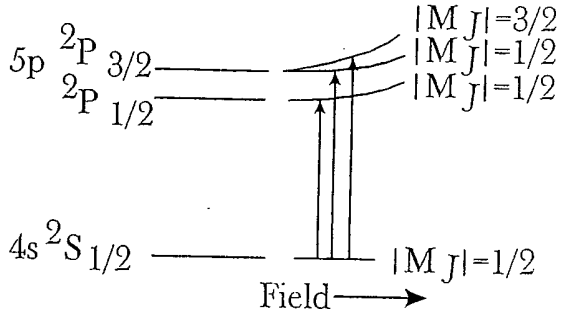


Fig. 54

Fig. 55



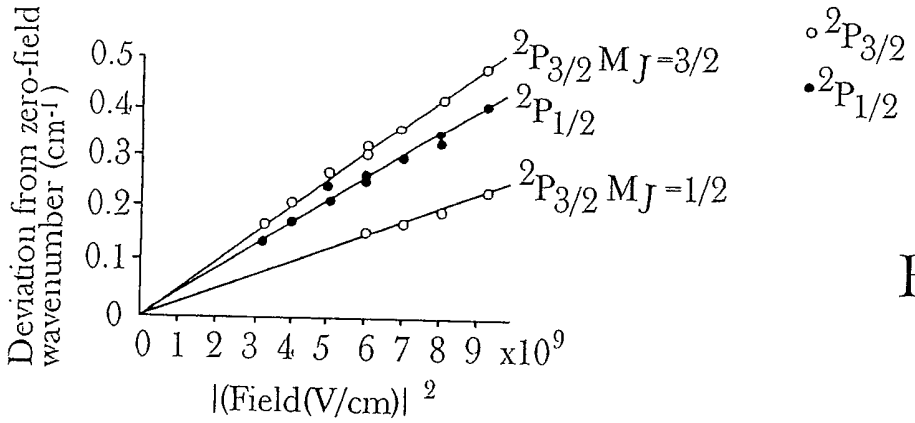
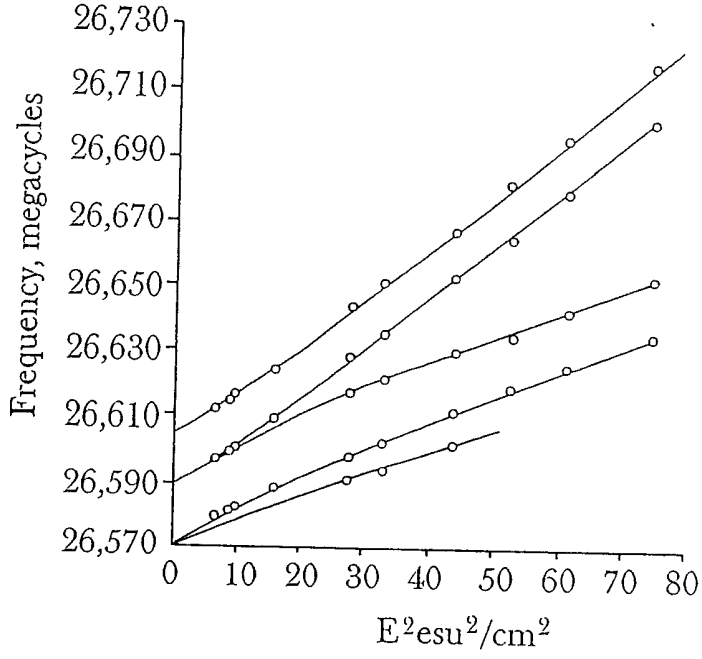


Fig. 56

Fig. 57



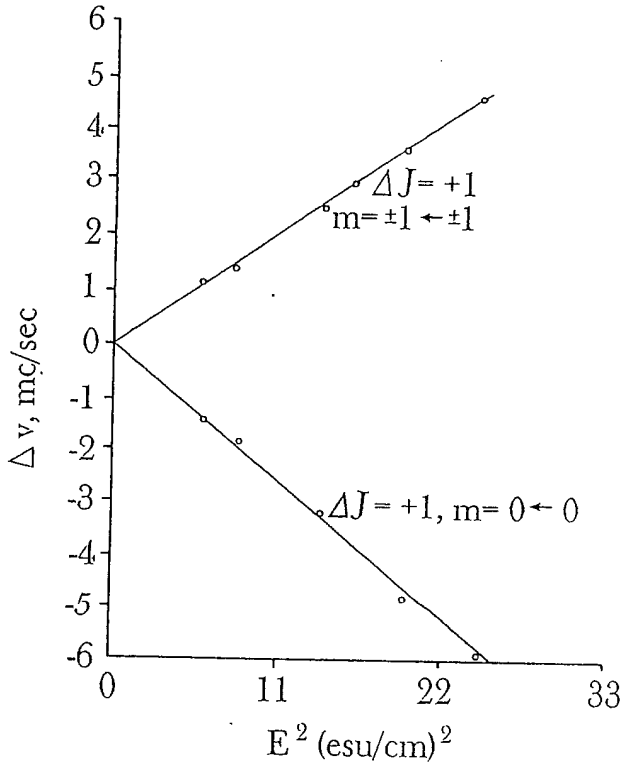

6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
Δ ν, mc/sec
ΔJ = +1
m= ±1 ← ±1
ΔJ = +1, m= 0 ← 0
0
11
22
33
E 2 (esu/cm)2

Fig. 58

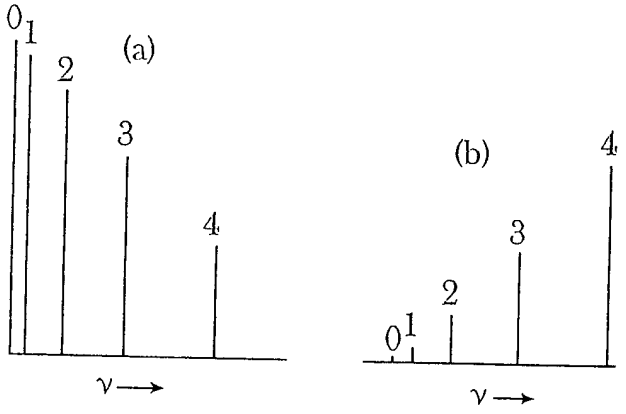

0
1
2
3
4
(a)
ν
(b)
4
3
2
0
1
ν

Fig. 59

Frequency (kilocycles)	Field strength (peak volts/cm)	
0(D-c)	640	(a)
1	660	(b)
1200	910	(c)

Fig. 60

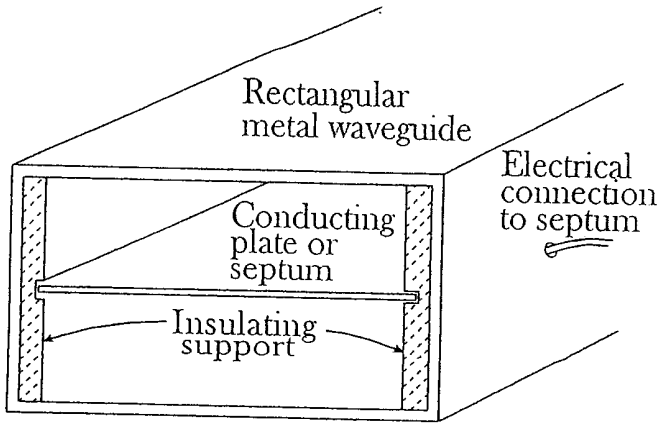
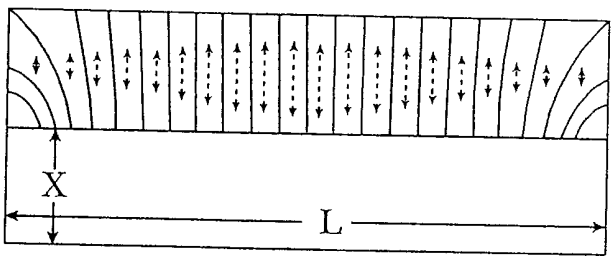


Fig. 61a

Fig. 61b



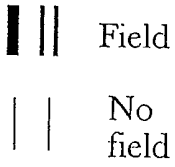


Fig. 62a

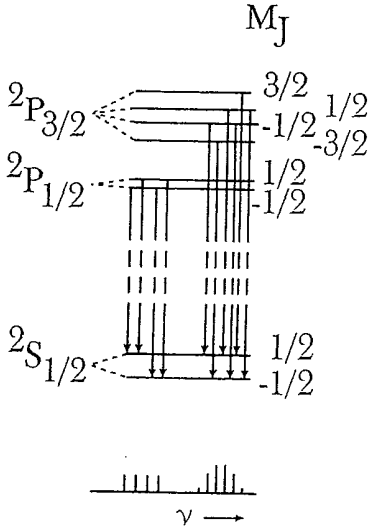


Fig. 62b

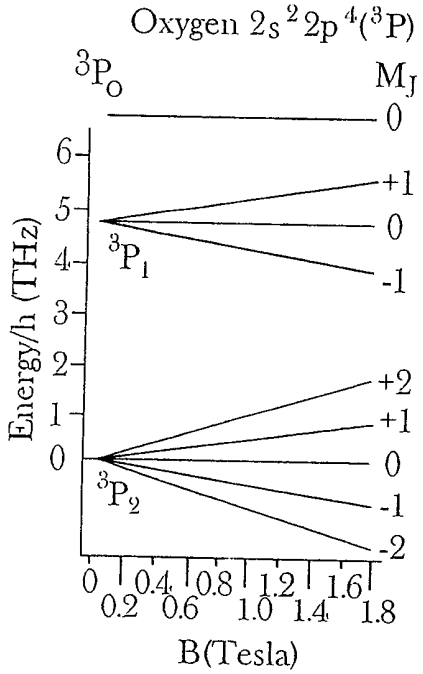


Fig. 63

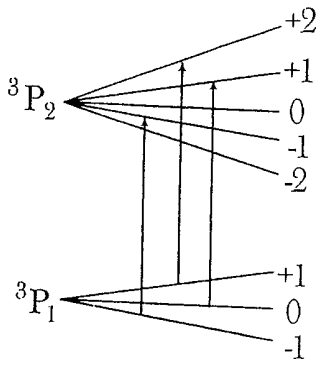
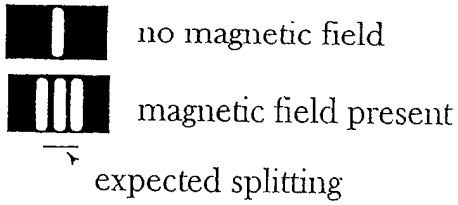


Fig. 64

Fig. 65a



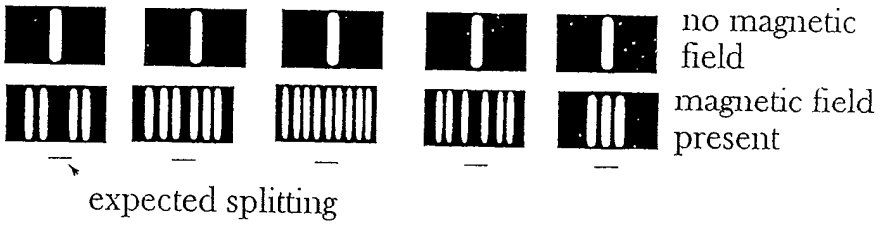


Fig. 65b

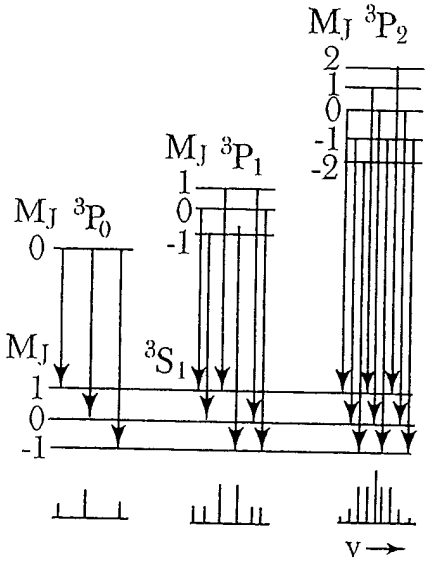


Fig. 66

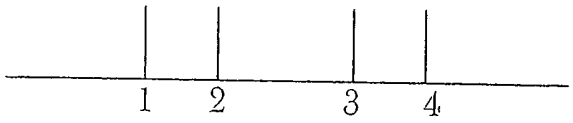


Fig. 67a

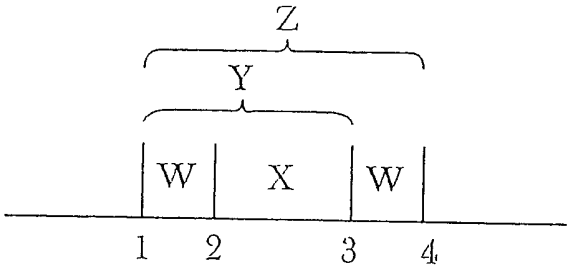


Fig. 67b

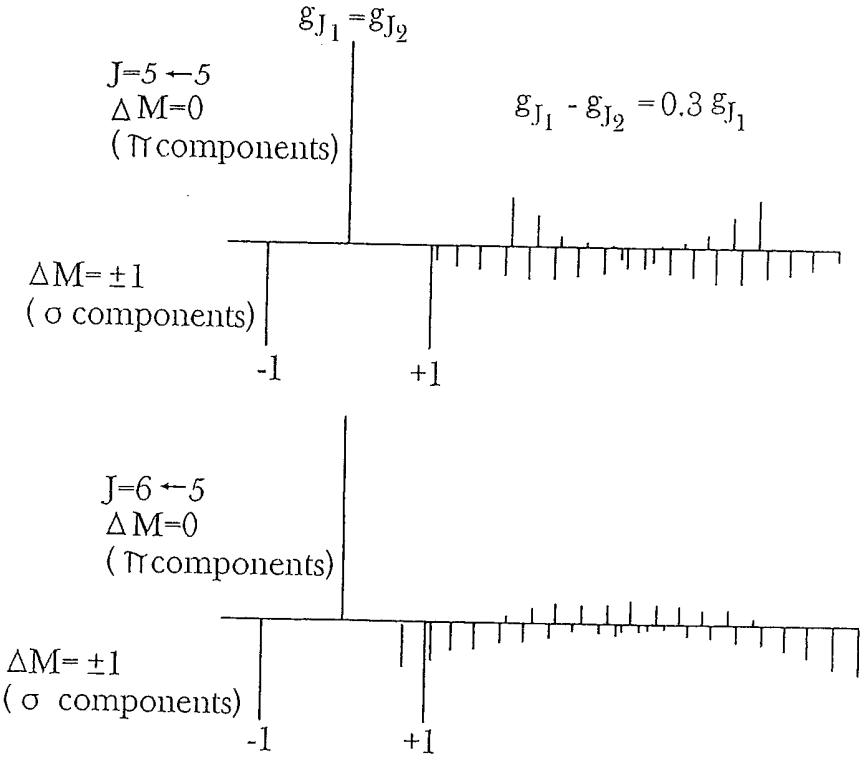


Fig. 68

100	7.7144	10.786	15.732	24.2382	40.1985	64.4367	74.0016	114.2	138.428	159.881	233.882	274.081	298.319	314.051	456.811
364.501	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
421.428	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
438.127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
443.127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
443.479	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
449.757	0	0	0	0	0	0	5.99283	0	0	0	0	0	0	0	0
459.561	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
473.862	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
474.478	0	43.9902	0	0	0	0	0	0	0	0	0	0	0	0	1.00602
497.495	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
512.918	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
513.333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520.151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
547.216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
547.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
556.12	0	0	0	0	0	0	0	0	0	0	0	1.99655	0	0	0
558.378	0	0	0	0	0	0	0	0	0	0	0	1.99754	0	0	0
565.537	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
573.474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
592.536	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
594.35	0	0	0	0	0	0	8.09707	0	0	0	0	0	0	0	0
614.388	0	0	0	0	0	0	0	0	0	0	0	0	1.99233	0	0
658.534	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
663.126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
666.389	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
674.365	0	0	0	0	0	0	9.005.66	0	0	0	0	0	0	0	0
674.821	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
682.614	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
692.832	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
715.081	0	0	0	0	0	0	0	0	5.00464	0	0	0	0	0	0
719.866	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
727.883	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
750.124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
755.838	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
759.276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
764.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
768.555	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
785.066	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808.823	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815.975	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816.431	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818.412	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822.889	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823.88	0	0	0	0	0	0	0	0	0	0	0	3.00236	0	0	0
826.395	0	0	0	33.991	0	0	0	0	0	0	0	3.00597	0	0	0
860.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
868.624	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
874.558	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
879.639	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
901.957	0	0	0	0	0	13.9976	0	0	0	0	0	0	0	0	0
904.338	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
907.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
911.162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
913.453	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917.24	0	0	0	0	0	0	0	7.99871	0	0	0	0	0	0	1.99461
920.761	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.99963
921.877	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.00792
922.336	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
927.168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
928.067	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
935.67	0	0	58.9923	0	0	0	0	0	0	0	0	0	0	0	0
936.644	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
949.744	0	0	0	0	0	0	0	0	0	0	4.00061	0	0	0	0
954.939	0	0	0	0	0	0	0	0	0	0	4.00477	0	0	0	0
967.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
975.906	0	0	0	0	0	15.0079	0	0	0	0	0	0	0	0	0
978.208	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
985.304	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
987.312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
993.388	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
998.553	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999.985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1012.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1013.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1018.06	0	0	0	42.0023	0	0	0	0	0	0	0	0	0	0	0

Fig. 69a

100	7.7144	10.786	15.732	24.2382	40.1985	64.4367	74.0016	114.2	139.428	159.881	233.882	274.081	298.319	314.051	456.811
1018.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1023.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1026.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1026.92	0	0	0	0	0	0	0	8.99229	0	0	0	0	0	0	0
1028.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1029.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1031.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1034.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1035.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1036.19	0	0	0	0	0	0	13.9992	0	0	0	0	0	0	0	0
1037.99	0	0	0	0	0	0	14.0023	0	0	0	0	0	0	0	0
1050.76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1057.58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1059.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1063.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1067.44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1069.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1073.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1080.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1081.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1081.63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1082.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1088.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1088.63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1091.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1094.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1096.55	0	0	0	0	0	0	0	0	0	0	0	3.99422	0	0	0
1098.17	0	0	0	0	0	0	0	0	0	0	0	4.00082	0	0	0
1102.57	0	0	0	0	0	0	0	0	0	0	0	4.00674	0	0	0
1104.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107.93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1109.36	0	0	0	0	0	0	0	8.00308	0	0	0	0	0	0	0
1110.99	0	0	0	0	0	0	14.991	0	0	0	0	0	0	0	0
1111.99	0	103.003	0	0	0	0	0	0	0	0	0	0	0	0	0
1113.82	0	0	0	0	0	0	0	0	0	7.00408	0	0	0	0	0
1120.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1127.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1127.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130.93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1132.62	0	105.008	71.9947	0	0	0	0	0	0	0	0	0	0	0	0
1135.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1140.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1144.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1151.66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1154.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1174.62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1175.91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1180.66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1181.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1185.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1187.63	0	0	0	48.9983	0	0	0	0	0	0	0	0	0	0	0
1191.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1192	0	0	0	0	0	0	0	0	0	0	0	0	3.99485	0	0
1192.46	0	0	0	0	0	0	0	0	0	0	0	0	3.99572	0	0
1195.11	0	0	0	0	0	0	0	0	0	0	0	0	3.99726	0	0
1196.33	0	0	0	0	0	0	0	0	0	0	0	0	4.00615	0	0
1199.89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1201.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1203.93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1205.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1213.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1214.99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1223.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1228.63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1234.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1234.63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1234.71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1239.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1247.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1248.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1251.13	0	115.9960	0	0	0	0	0	0	0	0	0	0	0	0	0
1254.61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1256.04	0	0	0	0	0	0	0	10.9986	0	0	0	0	0	3.99492	0
1257.71	0	0	0	0	0	0	16.9957	0	0	0	0	0	0	3.99948	0
1265.87	0	0	0	0	0	0	0	0	0	0	0	0	0	4.0048	0
1271.87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Fig. 69b

100	7.7144	10.786	15.732	24.2382	40.1985	64.4367	74.0016	114.2	138.438	159.881	233.882	274.081	298.319	314.051	456.811
1281.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1288.82	0	0	0	0	0	20.0013	0	0	0	0	0	0	0	0	0
1293.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1294.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1298.91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1307.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1309.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1318.13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1321.35	0	0	83.9912	0	0	0	0	0	0	0	0	0	0	0	0
1332.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1348.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1361.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1378.57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1384.61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1398.14	0	0	0	0	0	0	0	0	10.0017	0	0	0	0	0	0
1408.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1425.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1438.14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1450.02	0	0	0	0	0	0	0	0	0	8.99507	0	0	0	0	0
1462.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1475.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1476.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Fig. 69c

100	456.816	616.688	690.691	730.691	755.131	770.863	781.649	2466	2923	3083	3157	3197	3221	32367
364.501	0	0	0	0	0	0	0	0	0	0	0	0	0	0
421.428	0	0	0	0	0	0	0	0	0	0	0	0	0	0
438.127	0	0	0	0	0	0	0	0	0	0	0	0	0	0
443.127	0	0	0	0	0	0	0	0	0	0	0	0	0	0
443.479	0	0	0	0	0	0	0	0	0	0	0	0	0	0
449.757	0	0	0	0	0	0	0	0	0	0	0	0	0	0
459.561	1.00601	0	0	0	0	0	0	0	0	0	0	0	0	0
473.862	0	0	0	0	0	0	0	0	0	0	0	0	0	0
474.478	0	0	0	0	0	0	0	0	0	0	0	0	0	0
497.495	0	0	0	0	0	0	0	0	0	0	0	0	0	0
512.918	0	0	0	0	0	0	0	0	0	0	0	0	0	0
513.333	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520.151	0	0	0	0	0	0	0	0	0	0	0	0	0	0
547.216	0	0	0	0	0	0	0	0	0	0	0	0	0	0
547.489	0	0	0	0	0	0	0	0	0	0	0	0	0	0
556.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
558.378	0	0	0	0	0	0	0	0	0	0	0	0	0	0
565.537	0	0	0	0	0	0	0	0	0	0	0	0	0	0
573.474	0	0	0	0	0	0	0	0	0	0	0	0	0	0
592.536	0	0	0	0	0	0	0	0	0	0	0	0	0	0
594.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
614.388	0	0.99627	0	0	0	0	0	0	0	0	0	0	0	0
658.534	0	0	0	0	0	0	0	0	0	0	0	0	0	0
663.126	0	0	0	0	0	0	0	0	0	0	0	0	0	0
666.389	0	0	0	0	0	0	0	0	0	0	0	0	0	0
674.365	0	0	0	0	0	0	0	0	0	0	0	0	0	0
674.821	0	0	0	0	0	0	0	0	0	0	0	0	0	0
682.614	0	0	0	0	0	0	0	0	0	0	0	0	0	0
692.832	0	0	1.0031	0	0	0	0	0	0	0	0	0	0	0
715.081	0	0	0	0	0	0	0	0	0	0	0	0	0	0
719.666	0	0	0	0	0	0	0	0	0	0	0	0	0	0
727.983	0	0	0	0.99588	0	0	0	0	0	0	0	0	0	0
750.174	0	0	0	0	0.99337	0	0	0	0	0	0	0	0	0
755.838	0	0	0	0	1.00094	0	0	0	0	0	0	0	0	0
759.276	0	0	0	0	1.00549	0	0	0	0	0	0	0	0	0
7642	0	0	0	0	0	0.99136	0	0	0	0	0	0	0	0
768.555	0	0	0	0	0	0.99701	0	0	0	0	0	0	0	0
785.066	0	0	0	0	0	0	1.00437	0	0	0	0	0	0	0
808.823	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
815.975	0	0	0	0	0	0	0	0	0	0	0	0	0	0
816.431	0	0	0	0	0	0	0	0	0	0	0	0	0	0
818.412	0	0	0	0	0	0	0	0	0	0	0	0	0	0
822.889	0	0	0	0	0	0	0	0	0	0	0	0	0	0
823.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0
826.305	0	0	0	0	0	0	0	0	0	0	0	0	0	0
869.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
869.624	0	0	0	0	0	0	0	0	0	0	0	0	0	0
874.558	0	0	0	0	0	0	0	0	0	0	0	0	0	0
879.639	0	0	0	0	0	0	0	0	0	0	0	0	0	0
901.957	0	0	0	0	0	0	0	0	0	0	0	0	0	0
904.338	0	0	0	0	0	0	0	0	0	0	0	0	0	0
907.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0
911.162	1.99459	0	0	0	0	0	0	0	0	0	0	0	0	0
913.453	1.99961	0	0	0	0	0	0	0	0	0	0	0	0	0
917.24	2.0079	0	0	0	0	0	0	0	0	0	0	0	0	0
920.761	0	0	0	0	0	0	0	0	0	0	0	0	0	0
921.877	0	0	0	0	0	0	0	0	0	0	0	0	0	0
922.336	0	0	0	0	0	0	0	0	0	0	0	0	0	0
927.168	0	0	0	0	0	0	0	0	0	0	0	0	0	0
928.067	0	0	0	0	0	0	0	0	0	0	0	0	0	0
935.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
936.694	0	0	0	0	0	0	0	0	0	0	0	0	0	0
949.744	0	0	0	0	0	0	0	0	0	0	0	0	0	0
954.939	0	0	0	0	0	0	0	0	0	0	0	0	0	0
967.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0
975.906	0	0	0	0	0	0	0	0	0	0	0	0	0	0
978.209	0	0	0	0	0	0	0	0	0	0	0	0	0	0
985.384	0	0	0	0	0	0	0	0	0	0	0	0	0	0
987.312	0	0	0	0	0	0	0	0	0	0	0	0	0	0
993.388	0	0	0	0	0	0	0	0	0	0	0	0	0	0
998.553	0	0	0	0	0	0	0	0	0	0	0	0	0	0
999.985	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1012.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1013.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1018.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Fig. 69d

100	456.816	616.689	690.691	730.891	755.131	770.863	781.649	2466	2923	3083	3157	3197	3221	3236.7
1018.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1023.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1026.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1026.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1028.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1029.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1031.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1034.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1035.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1036.19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1037.99	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050.76	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1057.58	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1059.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1063.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1067.44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1069.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1073.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1080.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1081.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1081.63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1082.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1088.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1089.63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1091.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1094.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1096.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1098.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1102.57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1104.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1107.93	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1109.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1110.99	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1119.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1120.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1127.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1127.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130.93	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1132.62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1135.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1140.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1144.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1151.66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1154.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1174.62	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1175.91	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1180.66	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1181.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1185.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1187.63	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1191.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1192	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1192.46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1195.11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1196.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1199.89	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1201.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1203.93	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1205.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1213.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1214.99	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1223.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1228.63	0	1.9923	0	0	0	0	0	0	0	0	0	0	0	0
1230.33	0	1.995486	0	0	0	0	0	0	0	0	0	0	0	0
1234.17	0	2.000129	0	0	0	0	0	0	0	0	0	0	0	0
1234.63	0	2.000203	0	0	0	0	0	0	0	0	0	0	0	0
1234.71	0	2.000216	0	0	0	0	0	0	0	0	0	0	0	0
1239.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1247.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1248.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1251.13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1254.61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1256.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1257.71	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1265.87	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1271.87	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Fig. 69e

100	456816	616688	690691	730891	755131	770863	781649	2466	2923	3083	3157	3197	3221	32367
1281.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1286.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1293.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1294.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1298.91	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1307.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1309.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1318.13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1321.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1332.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1348.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1361.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1378.57	0	0	1.99593	0	0	0	0	0	0	0	0	0	0	0
1384.61	0	0	2.00467	0	0	0	0	0	0	0	0	0	0	0
1398.14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1408.94	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1425.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1438.14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1450.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1462.85	0	0	0	2.00146	0	0	0	0	0	0	0	0	0	0
1475.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1476.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Fig. 69f

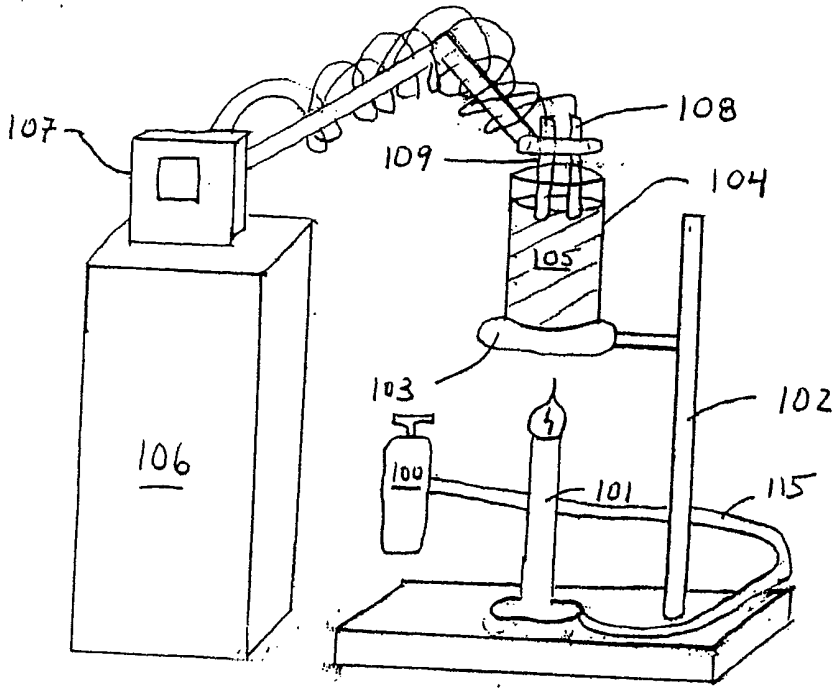

107
108
109
104
105
103
102
106
100
101
115

FIG. 70

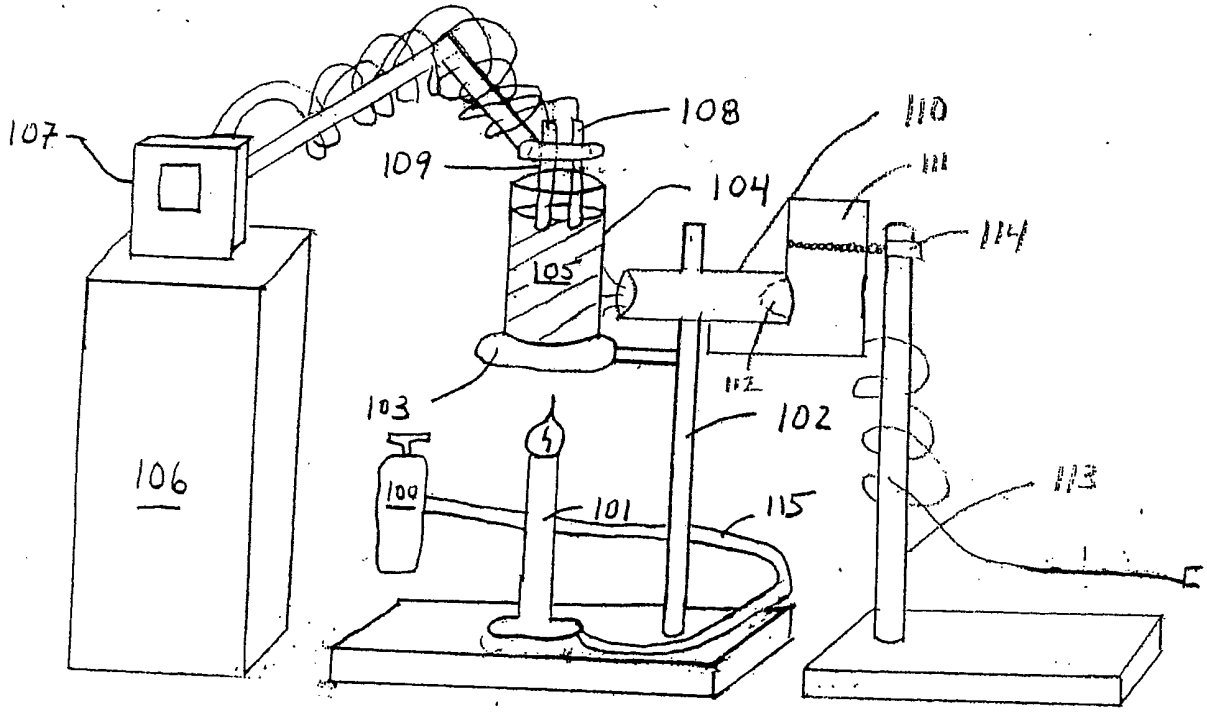
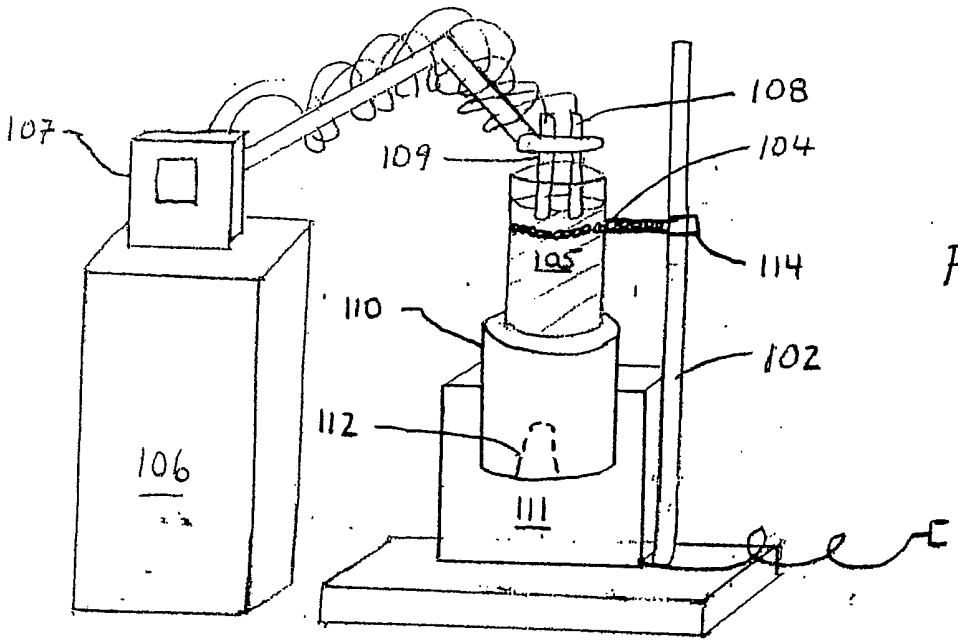
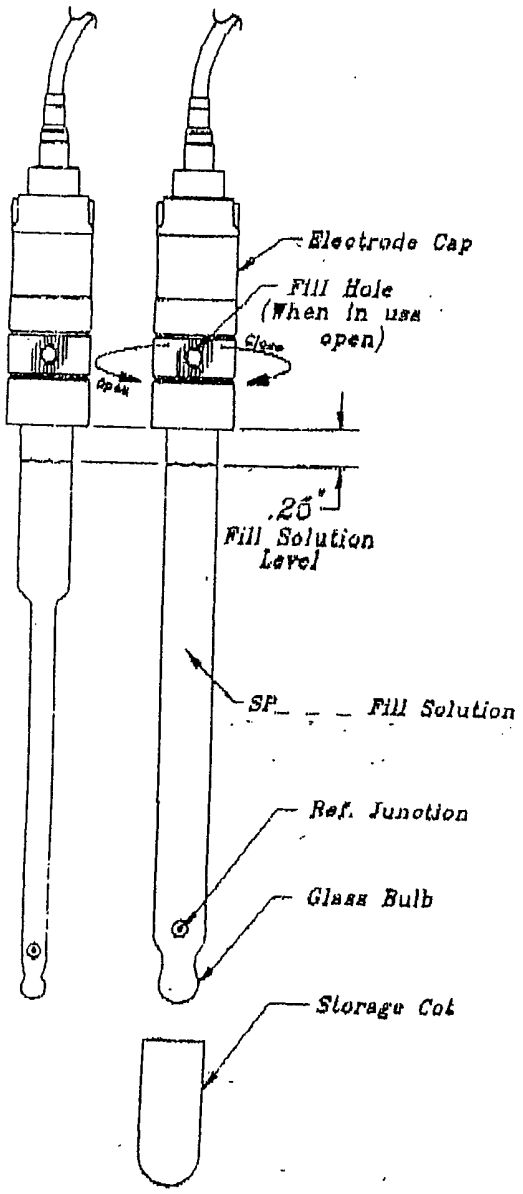

107
108
110
111
109
104
114
105
112
103
102
106
100
101
115
113

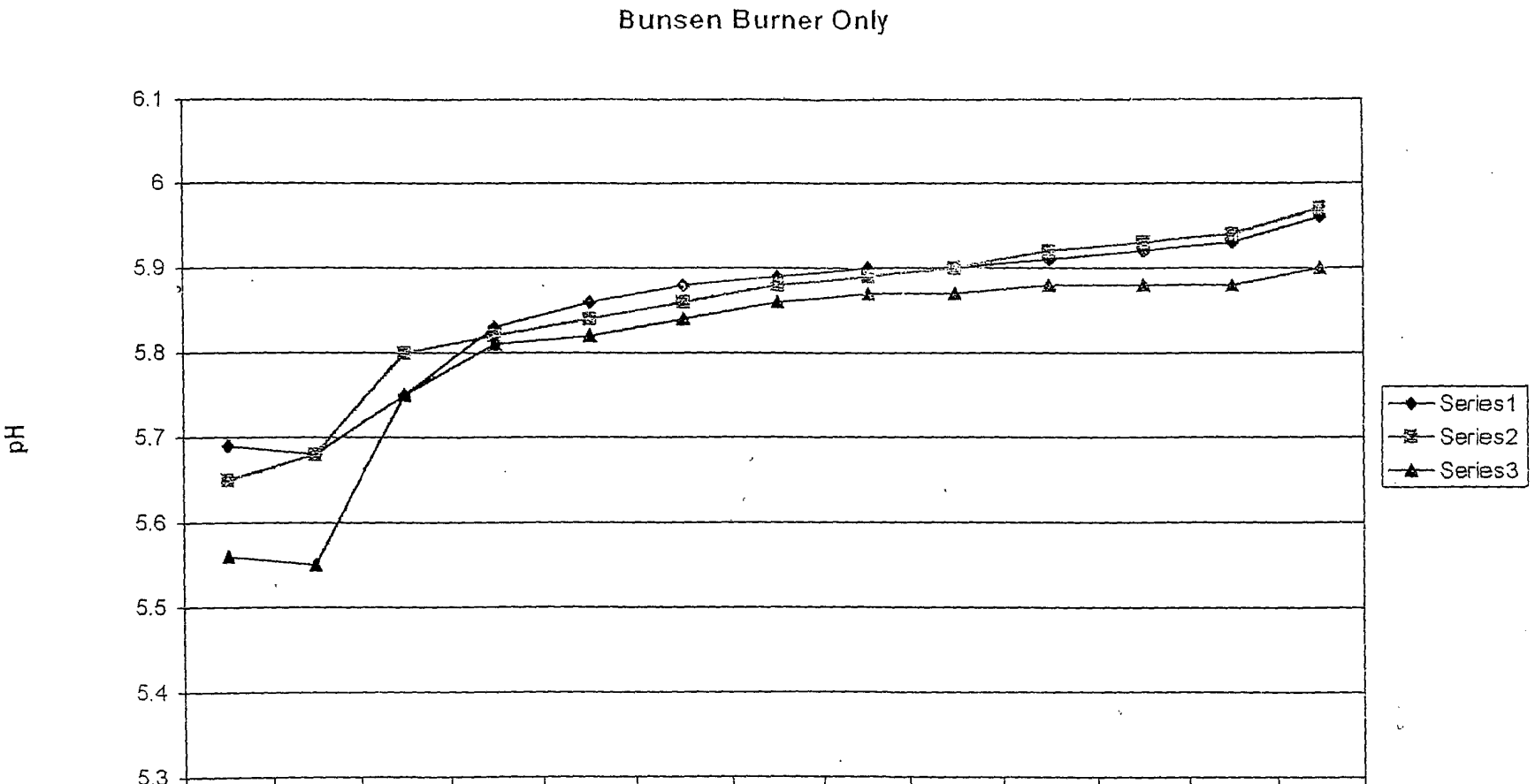
FIG. 71


107
108
109
104
105
114
110
102
112
106
111

F16. 72

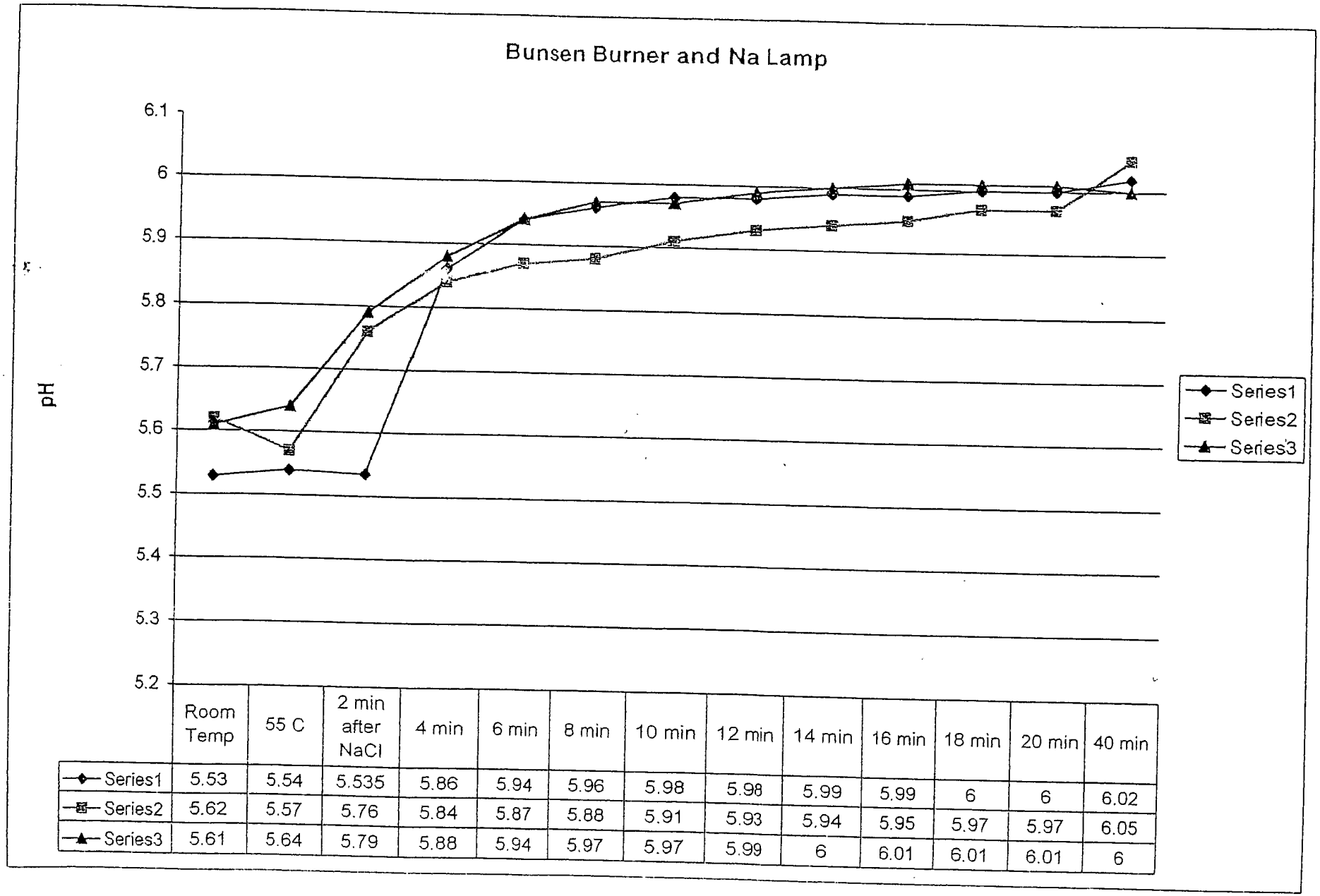

Electrode Cap
Fill Hole
(When in use
open)
Close
Open
.25"
Fill Solution
Level
SP
Fill Solution
Ref. Junction
Glass Bulb
Storage Cot

F16. 73



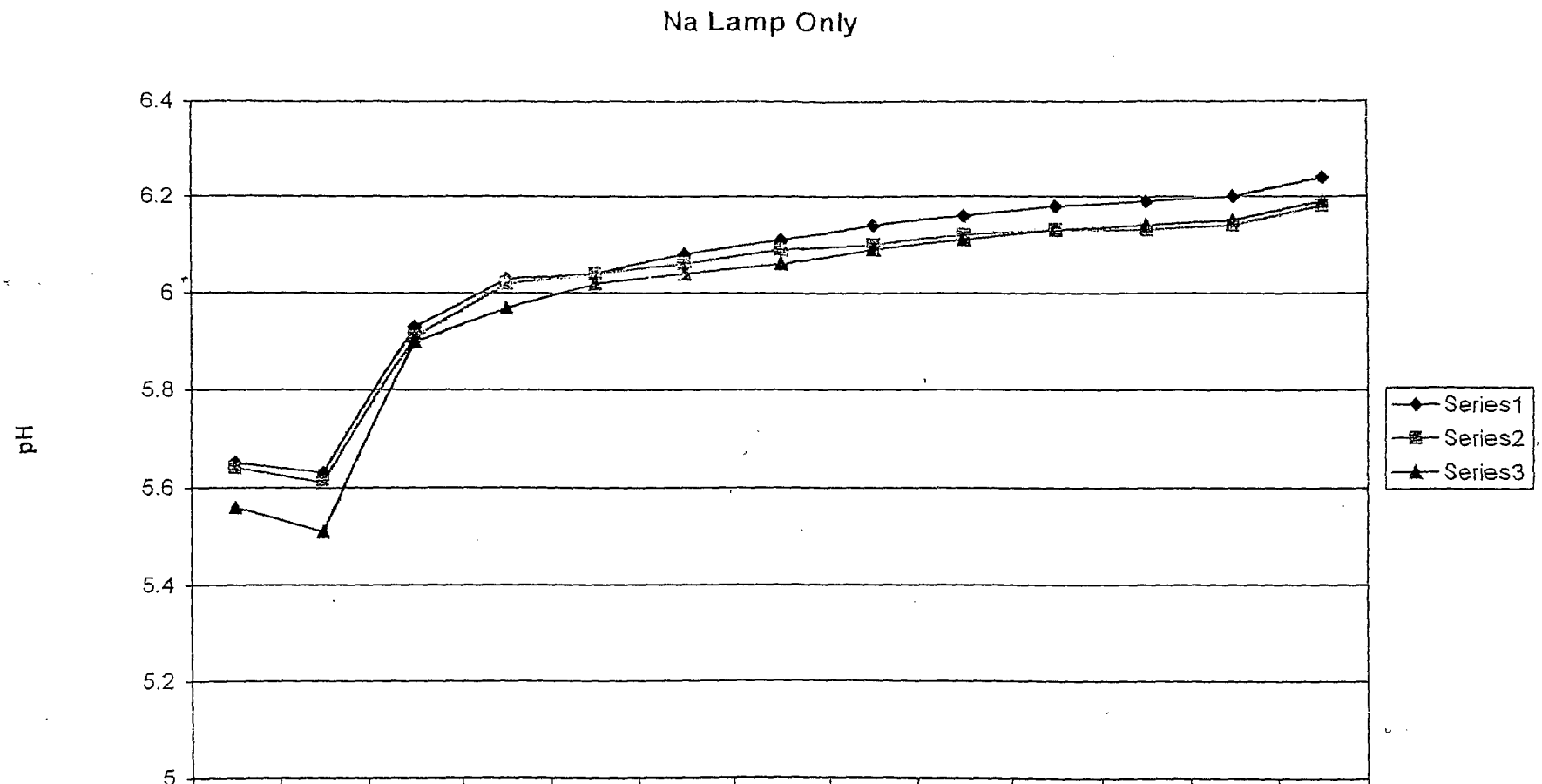
	Room Temp	55 C	2 min after NaCl	4 min	6 min	8 min	10 min	12 min	14 min	16 min	18 min	20 min	40 min
Series1	5.69	5.68	5.75	5.83	5.86	5.88	5.89	5.9	5.9	5.91	5.92	5.93	5.96
Series2	5.65	5.68	5.8	5.82	5.84	5.86	5.88	5.89	5.9	5.92	5.93	5.94	5.97
Series3	5.56	5.55	5.75	5.81	5.82	5.84	5.86	5.87	5.87	5.88	5.88	5.88	5.9

FIG. 74a



	Room Temp	55 C	2 min after NaCl	4 min	6 min	8 min	10 min	12 min	14 min	16 min	18 min	20 min	40 min
Series1	5.53	5.54	5.535	5.86	5.94	5.96	5.98	5.98	5.99	5.99	6	6	6.02
Series2	5.62	5.57	5.76	5.84	5.87	5.88	5.91	5.93	5.94	5.95	5.97	5.97	6.05
Series3	5.61	5.64	5.79	5.88	5.94	5.97	5.97	5.99	6	6.01	6.01	6.01	6

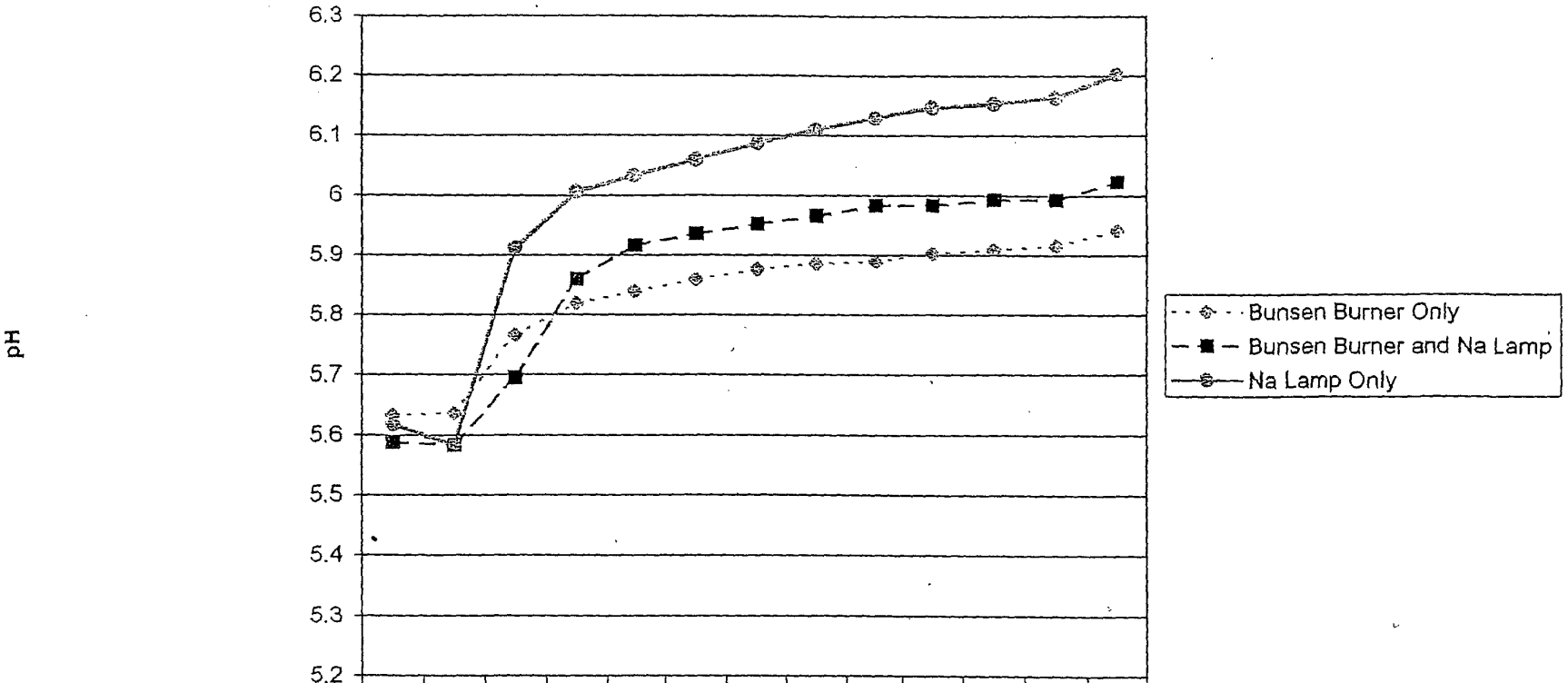
FIG. 74b



	Room Temp	55 C	2 min after NaCl	4 min	6 min	8 min	10 min	12 min	14 min	16 min	18 min	20 min	40 min
Series1	5.65	5.63	5.93	6.03	6.04	6.08	6.11	6.14	6.16	6.18	6.19	6.2	6.24
Series2	5.64	5.61	5.91	6.02	6.04	6.06	6.09	6.1	6.12	6.13	6.13	6.14	6.18
Series3	5.56	5.51	5.9	5.97	6.02	6.04	6.06	6.09	6.11	6.13	6.14	6.15	6.19

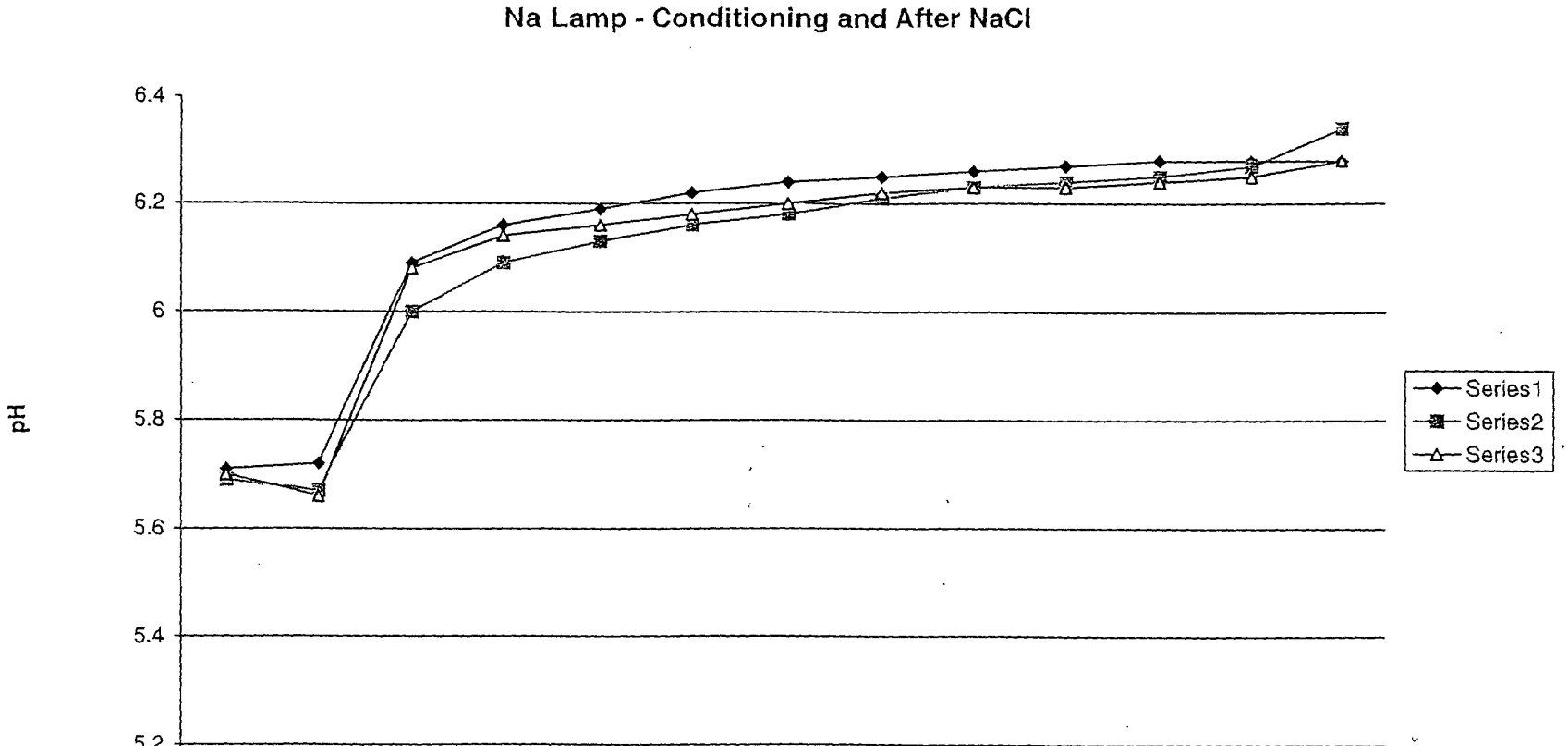
FIG. 74C

Averages of 3 Different Experimental Conditions



	Room Tem	55 C	2 min after	4 min	6 min	8 min	10 min	12 min	14 min	16 min	18 min	20 min	40 min
Bunsen Burner Only	5.63	5.64	5.77	5.82	5.84	5.86	5.88	5.89	5.89	5.9	5.91	5.92	5.94
Bunsen Burner and Na Lamp	5.59	5.58	5.7	5.86	5.92	5.94	5.95	5.97	5.98	5.98	5.99	5.99	6.02
Na Lamp Only	5.62	5.58	5.91	6.01	6.03	6.06	6.09	6.11	6.13	6.15	6.15	6.16	6.2

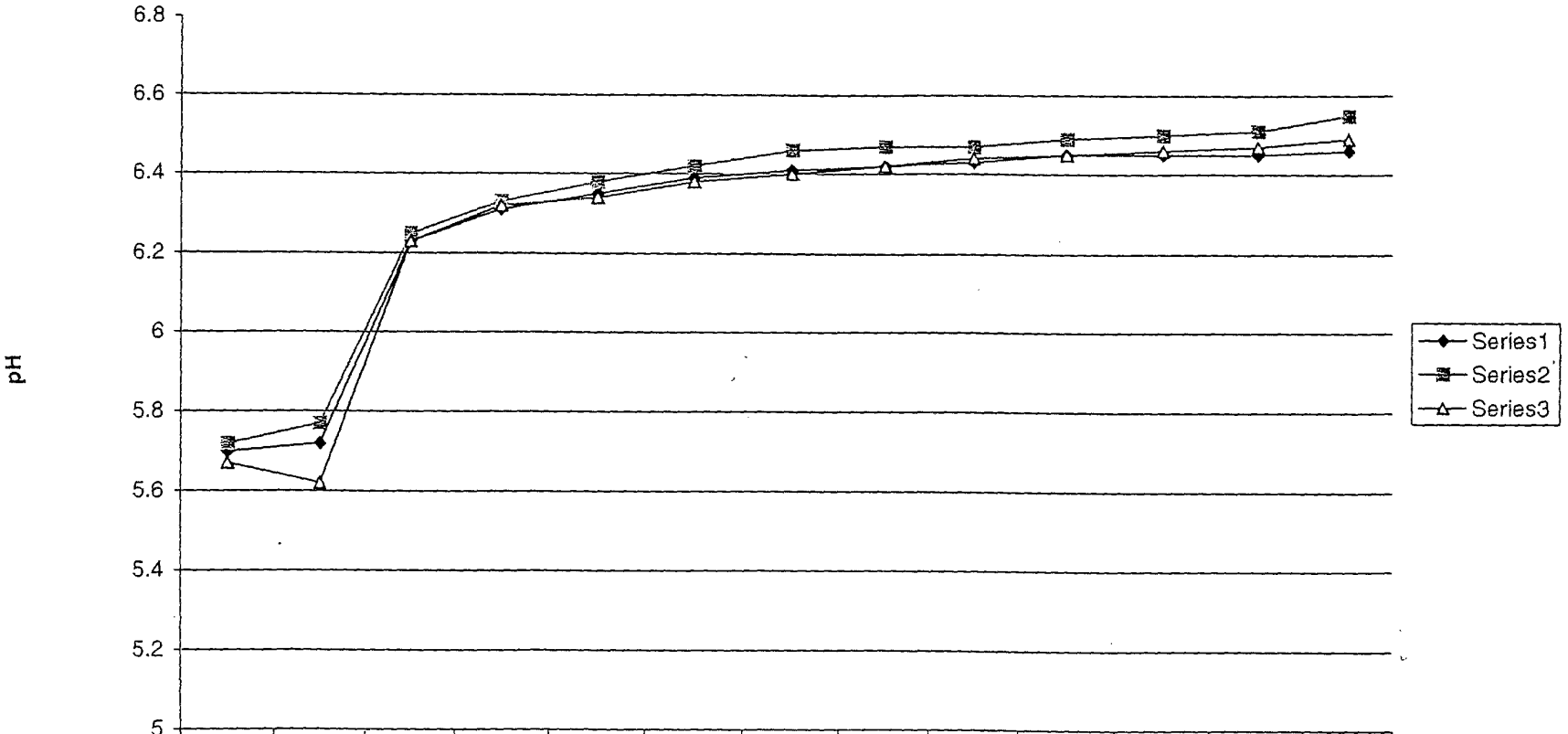
FIG. 74d



	Room Temp	55 C	2 min after NaCl	4 min	6 min	8 min	10 min	12 min	14 min	16 min	18 min	20 min	40 min
Series1	5.71	5.72	6.09	6.16	6.19	6.22	6.24	6.25	6.26	6.27	6.28	6.28	6.28
Series2	5.69	5.67	6	6.09	6.13	6.16	6.18	6.21	6.23	6.24	6.25	6.27	6.34
Series3	5.7	5.66	6.08	6.14	6.16	6.18	6.2	6.22	6.23	6.23	6.24	6.25	6.28

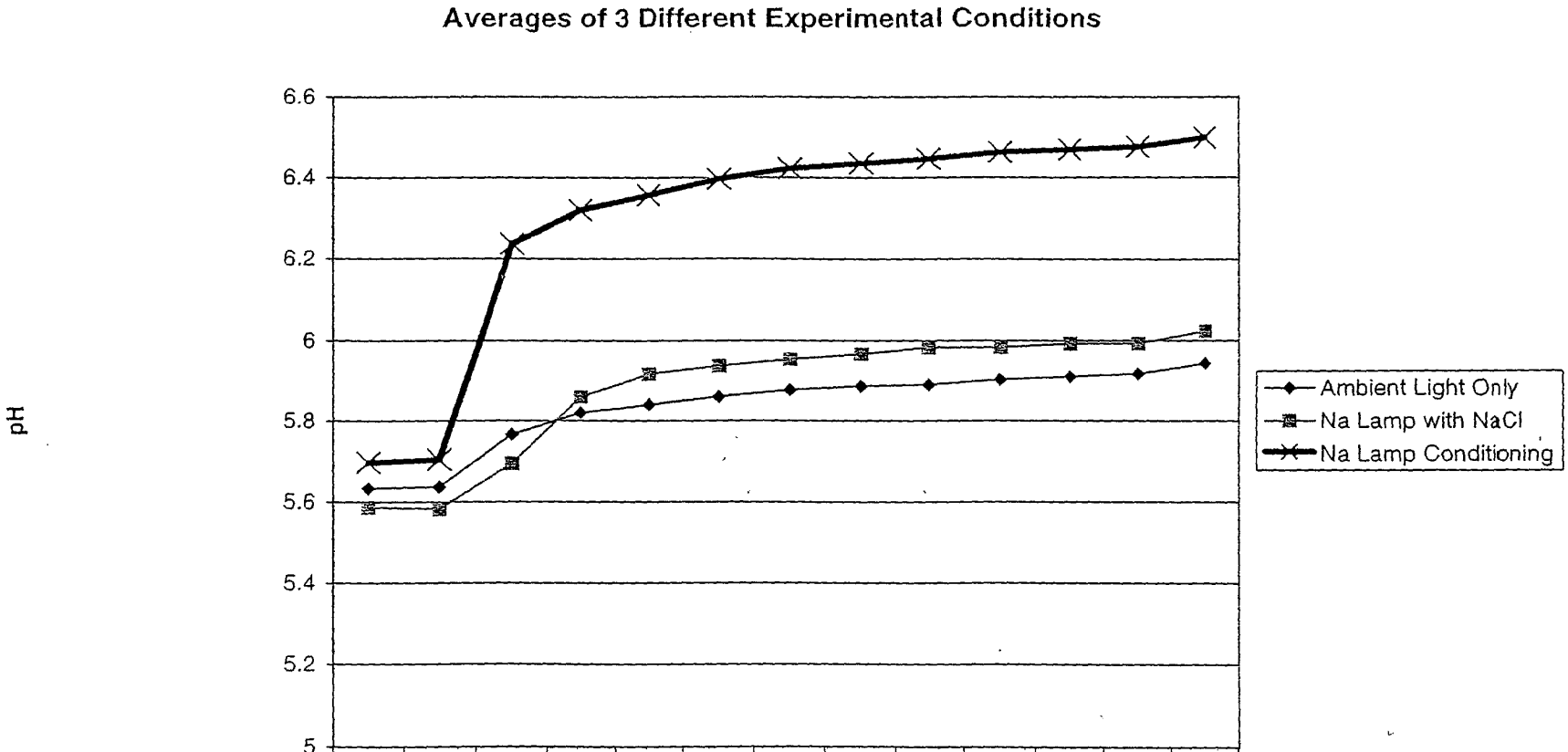
FIG. 74e

Na Lamp Conditioning of Water



	1	2	3	4	5	6	7	8	9	10	11	12	13
Series1	5.7	5.72	6.23	6.31	6.35	6.39	6.41	6.42	6.43	6.45	6.45	6.45	6.46
Series2	5.72	5.77	6.25	6.33	6.38	6.42	6.46	6.47	6.47	6.49	6.5	6.51	6.55
Series3	5.67	5.62	6.23	6.32	6.34	6.38	6.4	6.42	6.44	6.45	6.46	6.47	6.49

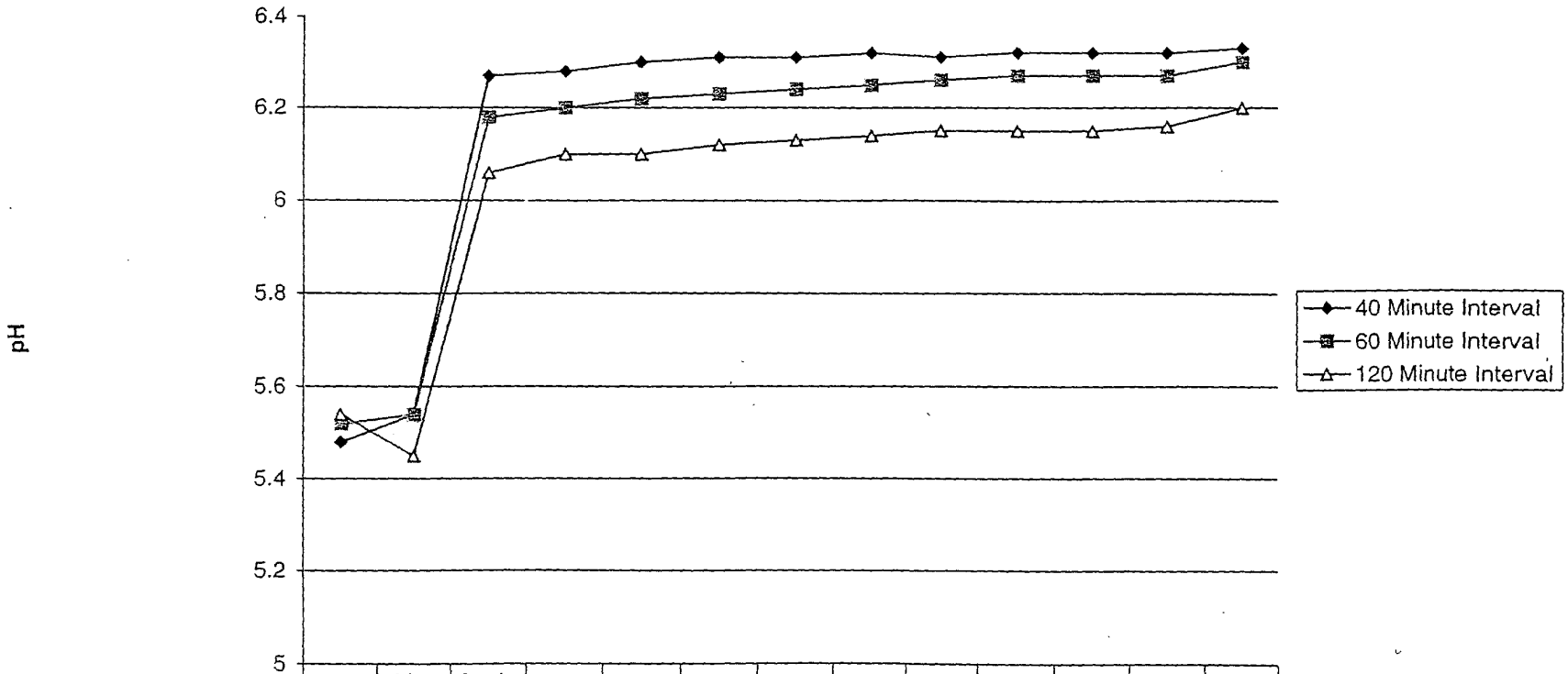
FIG. 74f



	Room Temp	55 C	2 min after NaCl	4 min	6 min	8 min	10 min	12 min	14 min	16 min	18 min	20 min	40 min
Ambient Light Only	5.633	5.637	5.767	5.82	5.84	5.86	5.877	5.887	5.89	5.903	5.91	5.917	5.943
Na Lamp with NaCl	5.587	5.583	5.695	5.86	5.917	5.937	5.953	5.967	5.983	5.983	5.993	5.993	6.023
Na Lamp Conditioning	5.697	5.703	6.237	6.32	6.357	6.397	6.423	6.437	6.447	6.463	6.47	6.477	6.5

FIG. 74g

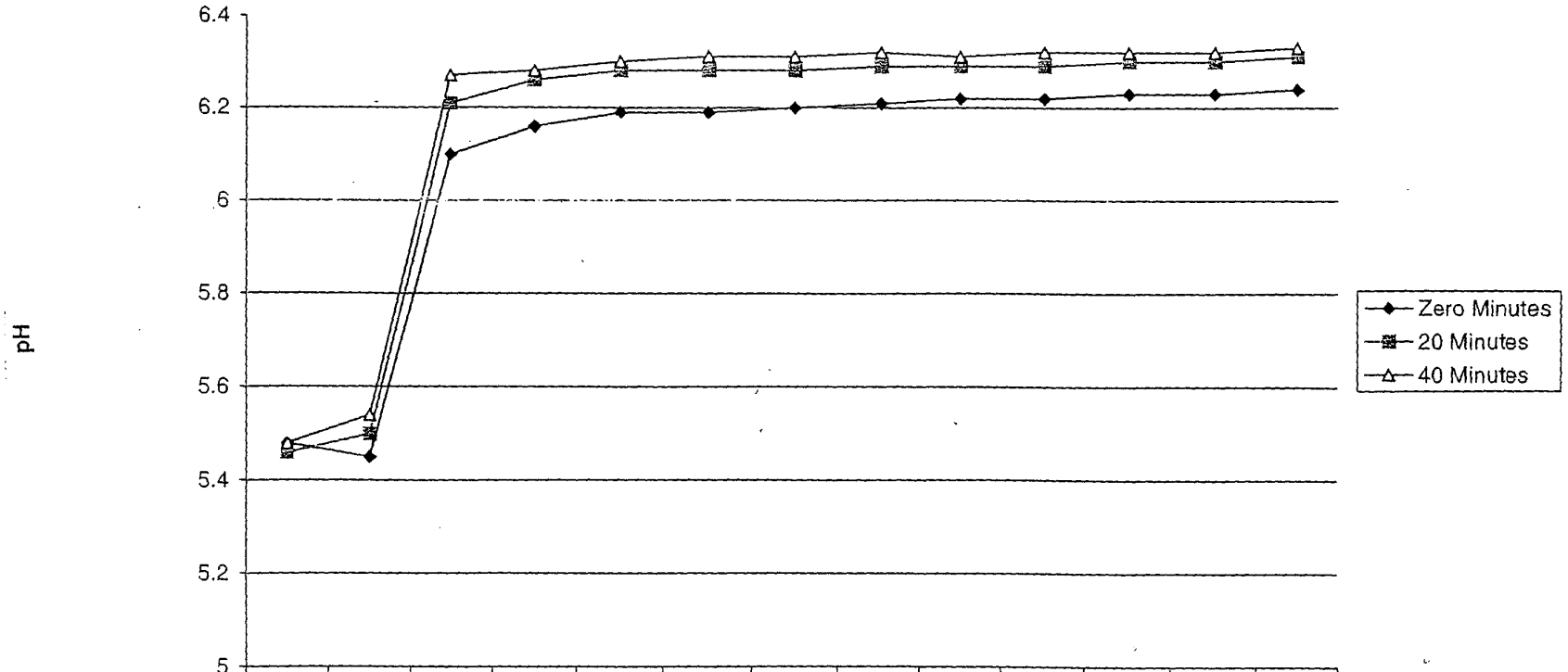
Decay Curves for Na Lamp Conditioning of Water



	Room Temp	After Na Lamp	2 min after NaCl	4 min	6 min	8 min	10 min	12 min	14 min	16 min	18 min	20 min	40 min
40 Minute Interval	5.48	5.54	6.27	6.28	6.3	6.31	6.31	6.32	6.31	6.32	6.32	6.32	6.33
60 Minute Interval	5.52	5.54	6.18	6.2	6.22	6.23	6.24	6.25	6.26	6.27	6.27	6.27	6.3
120 Minute Interval	5.54	5.45	6.06	6.1	6.1	6.12	6.13	6.14	6.15	6.15	6.15	6.16	6.2

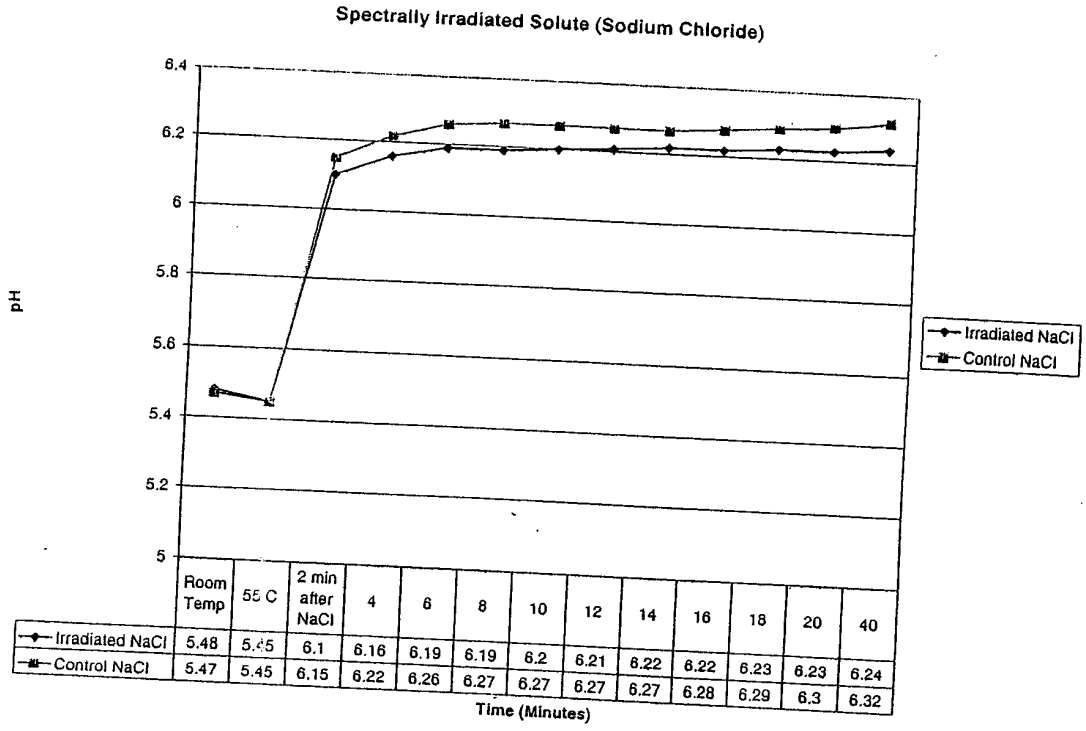
FIG. 74h

Activation Curves for Na Lamp Conditioning in Water



	Room Temp	After Na Lamp	2 min after NaCl	4 min	6 min	8 min	10 min	12 min	14 min	16 min	18 min	20 min	40 min
Zero Minutes	5.48	5.45	6.1	6.16	6.19	6.19	6.2	6.21	6.22	6.22	6.23	6.23	6.24
20 Minutes	5.46	5.5	6.21	6.26	6.28	6.28	6.28	6.29	6.29	6.29	6.3	6.3	6.31
40 Minutes	5.48	5.54	6.27	6.28	6.3	6.31	6.31	6.32	6.31	6.32	6.32	6.32	6.33

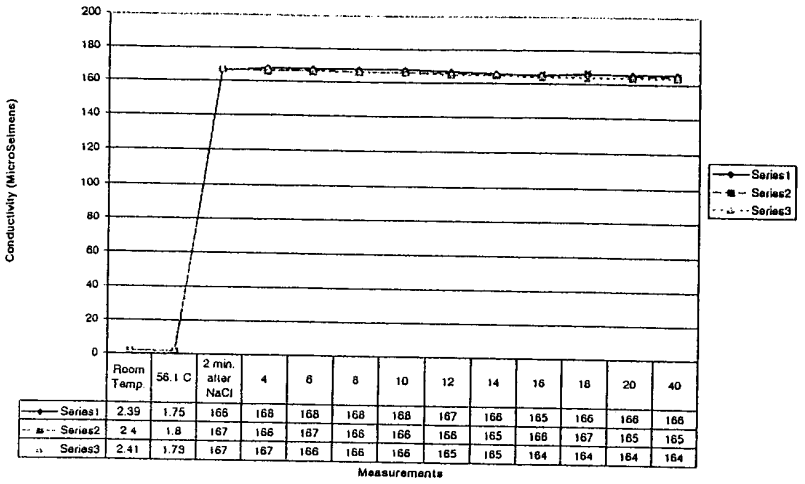
FIG. 74c



	Room Temp	55 C	2 min after NaCl	4	6	8	10	12	14	16	18	20	40
Irradiated NaCl	5.48	5.45	6.1	6.16	6.19	6.19	6.2	6.21	6.22	6.22	6.23	6.23	6.24
Control NaCl	5.47	5.45	6.15	6.22	6.26	6.27	6.27	6.27	6.27	6.28	6.29	6.3	6.32

FIG. 74j

1. Conductivity - Bunsen Burner Only



	Room Temp.	56.1 C	2 min. after NaCl	4	6	8	10	12	14	16	18	20	40
Series1	2.39	1.75	166	168	168	168	168	167	166	165	166	166	166
Series2	2.4	1.8	167	166	167	166	166	166	165	166	167	165	165
Series3	2.41	1.79	167	167	166	166	166	165	165	164	164	164	164

FIG. 75a

1. Conductivity - Bunsen Burner Only

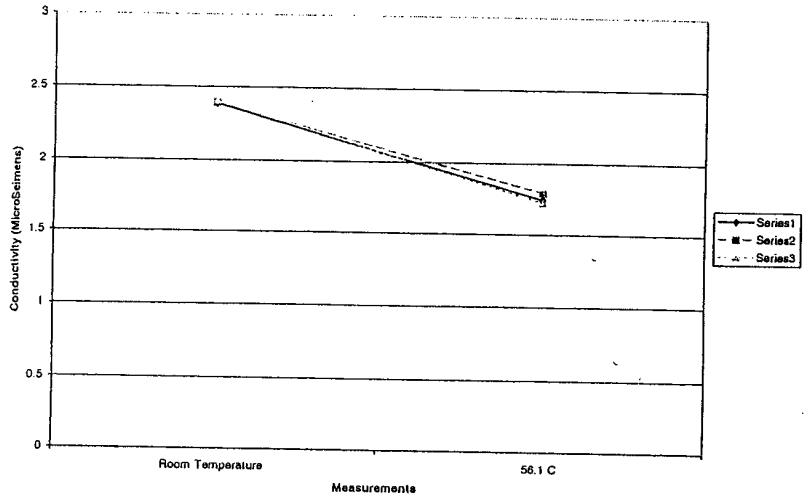


FIG. 75b

1. Conductivity - Bunsen Burner Only

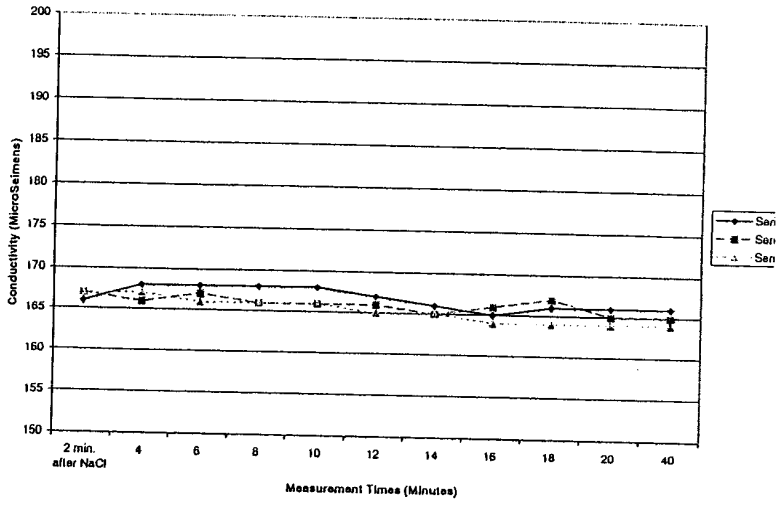
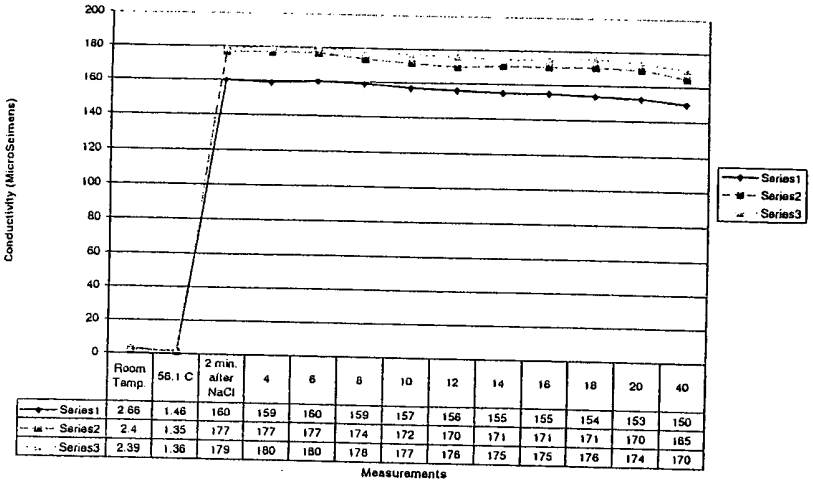


FIG. 75c

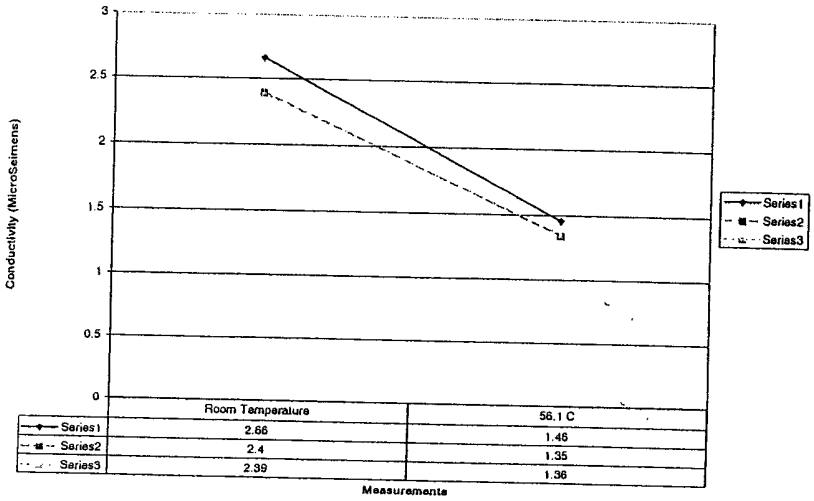
2. Conductivity - Sodium Irradiation 40 Minutes Before the Salt



	Room Temp.	56.1 C	2 min. after NaCl	4	6	8	10	12	14	16	18	20	40
Series1	2.66	1.46	160	159	160	159	157	156	155	155	154	153	150
Series2	2.4	1.35	177	177	177	174	172	170	171	171	171	170	165
Series3	2.39	1.36	179	180	180	178	177	176	175	175	176	174	170

FIG. 75d

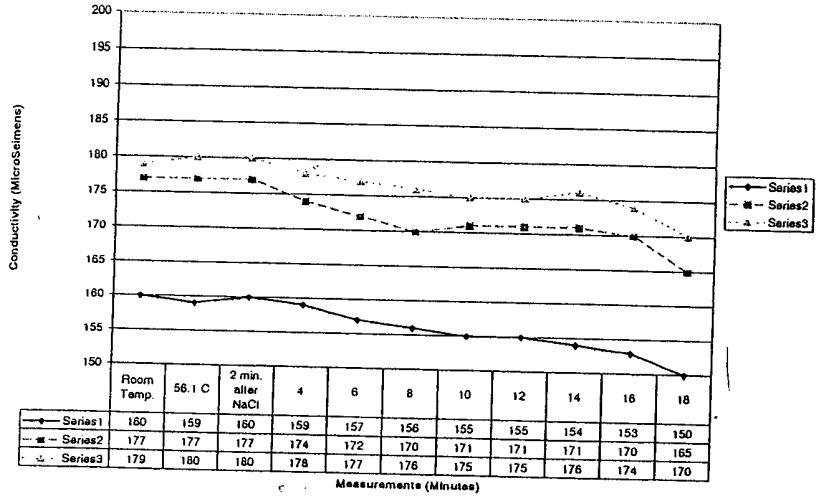
2. Conductivity - Sodium Irradiation 40 Minutes Before the Salt



	Room Temperature	56.1 C
Series1	2.66	1.46
Series2	2.4	1.35
Series3	2.39	1.36

FIG. 75e

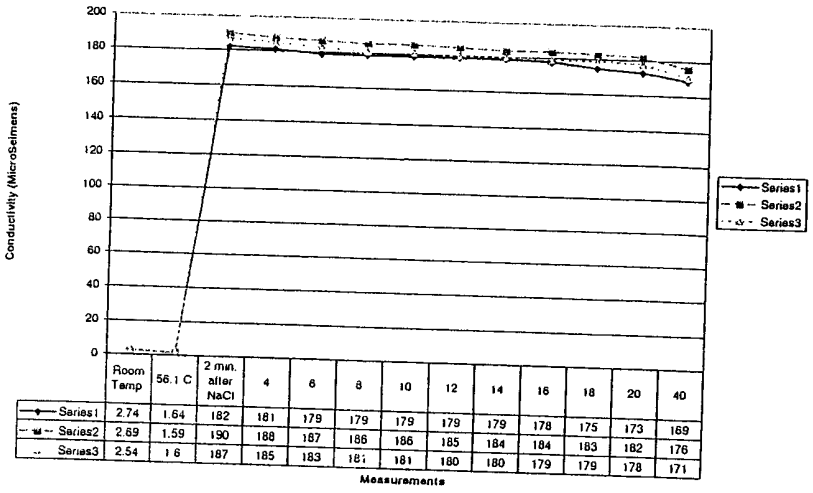
2. Conductivity - Sodium Irradiation 40 Minutes Before the Salt



	Room Temp.	56.1 C	2 min. after NaCl	4	6	8	10	12	14	16	18
Series1	160	159	160	159	157	156	155	155	154	153	150
Series2	177	177	177	174	172	170	171	171	171	170	165
Series3	179	180	180	178	177	176	175	175	176	174	170

FIG. 75f

3. Conductivity - Sodium Irradiation 40 Minutes After the Salt

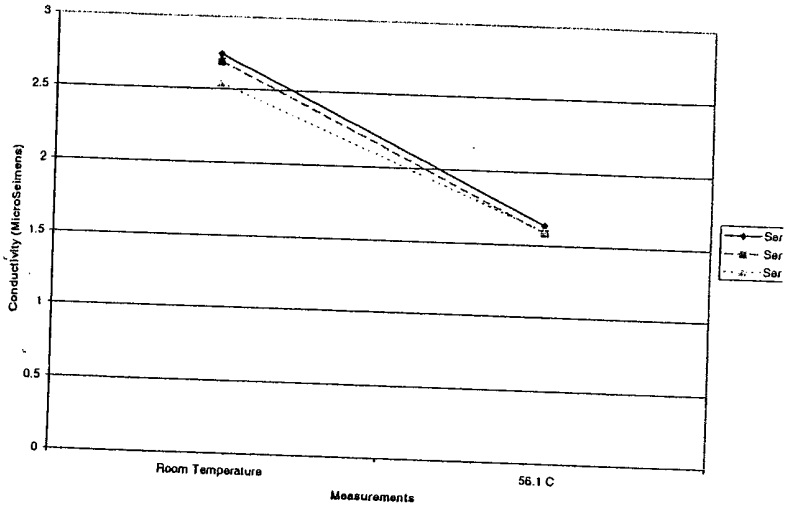


	Room Temp	56.1 C	2 min. after NaCl	4	6	8	10	12	14	16	18	20	40
Series1	2.74	1.64	182	181	179	179	179	179	179	178	175	173	169
Series2	2.69	1.59	190	188	187	186	186	185	184	184	183	182	176
Series3	2.54	1.6	187	185	183	181	181	180	180	179	179	178	171

FIG. 75g

FIG. 75h

3. Conductivity - Sodium Irradiation 40 Minutes After the Salt



3. Conductivity - Sodium Irradiation 40 Minutes After the Salt

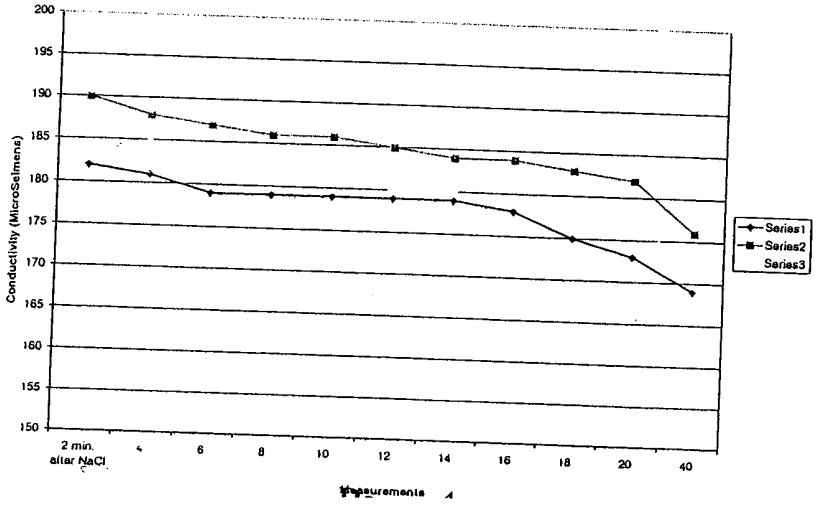
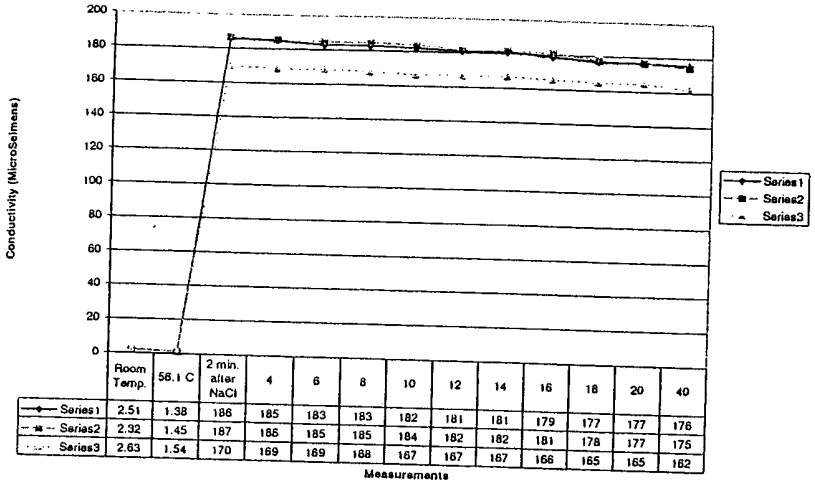


FIG 75i

4. Conductivity - Sodium Irradiation Before and After the Salt



	Room Temp.	56.1 C	2 min. after NaCl	4	6	8	10	12	14	16	18	20	40
Series1	2.51	1.38	186	185	183	183	182	181	181	179	177	177	176
Series2	2.32	1.45	187	186	185	185	184	182	182	181	178	177	175
Series3	2.63	1.54	170	169	169	168	167	167	167	166	165	165	162

Measurements

FIG. 75j

4. Conductivity - Sodium Irradiation Before and After the Salt

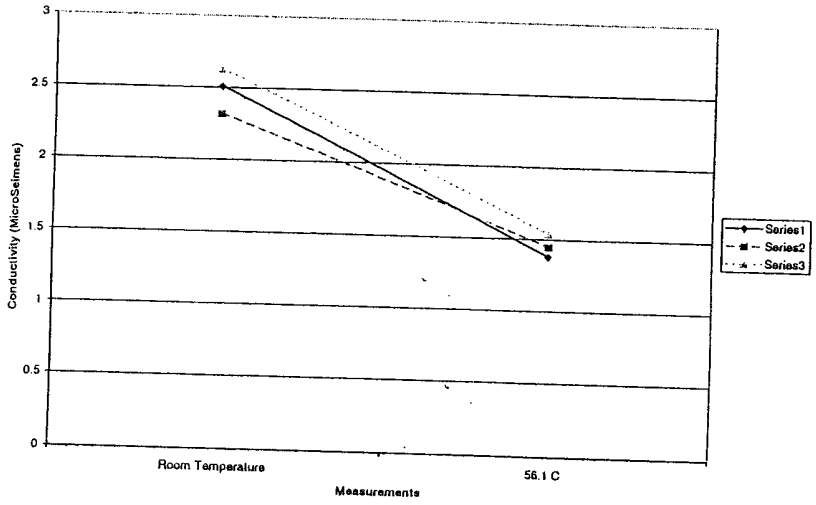


FIG. 75K

4. Conductivity - Sodium Irradiation 40 Minutes Before and After the Salt

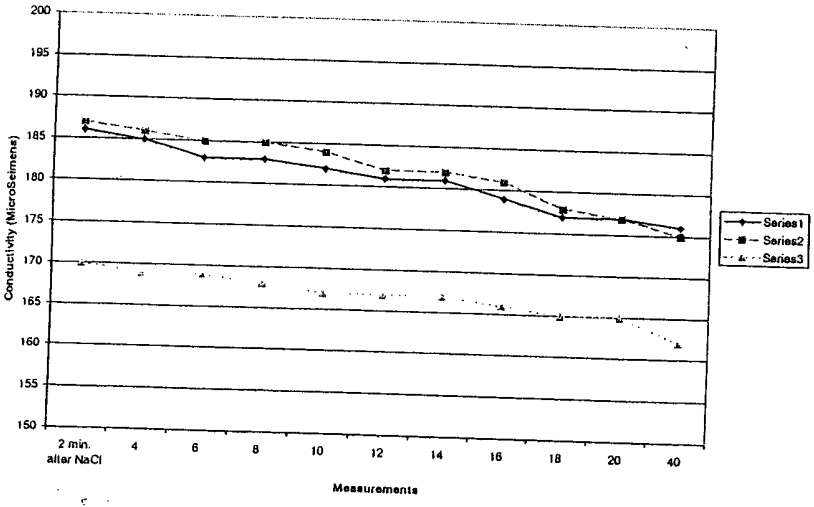


FIG. 75l

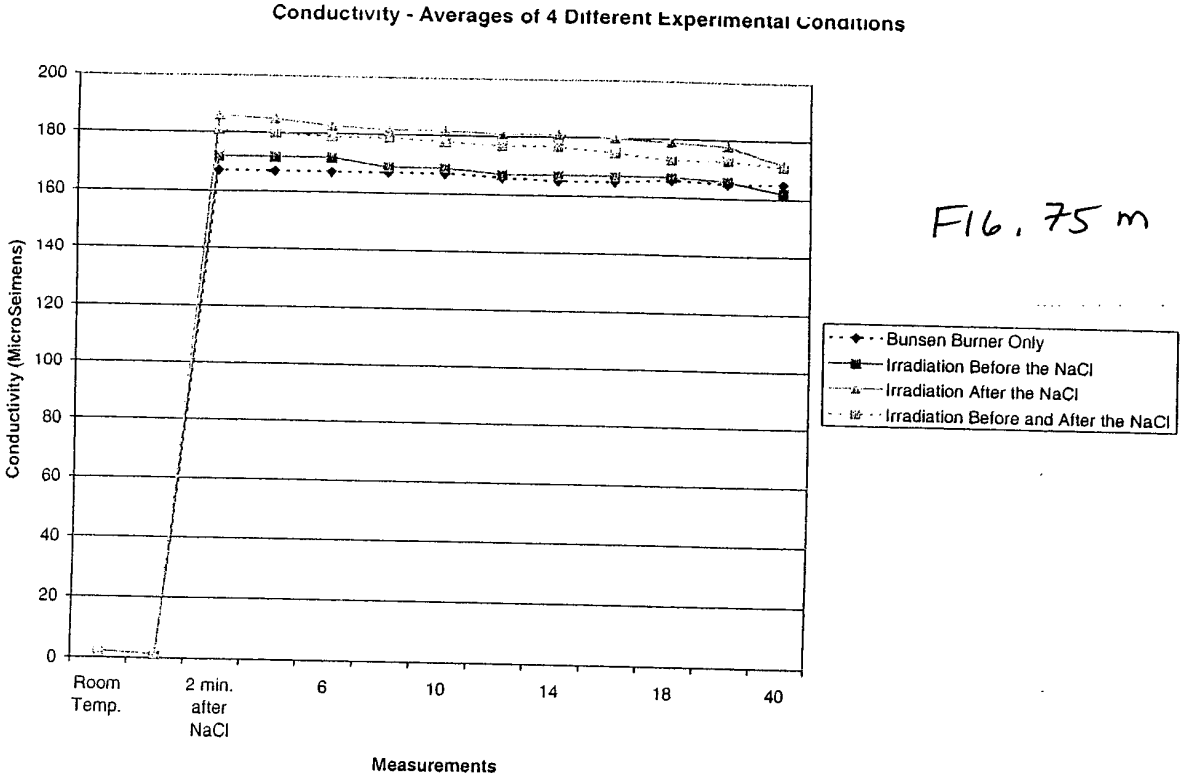


Fig. 75m

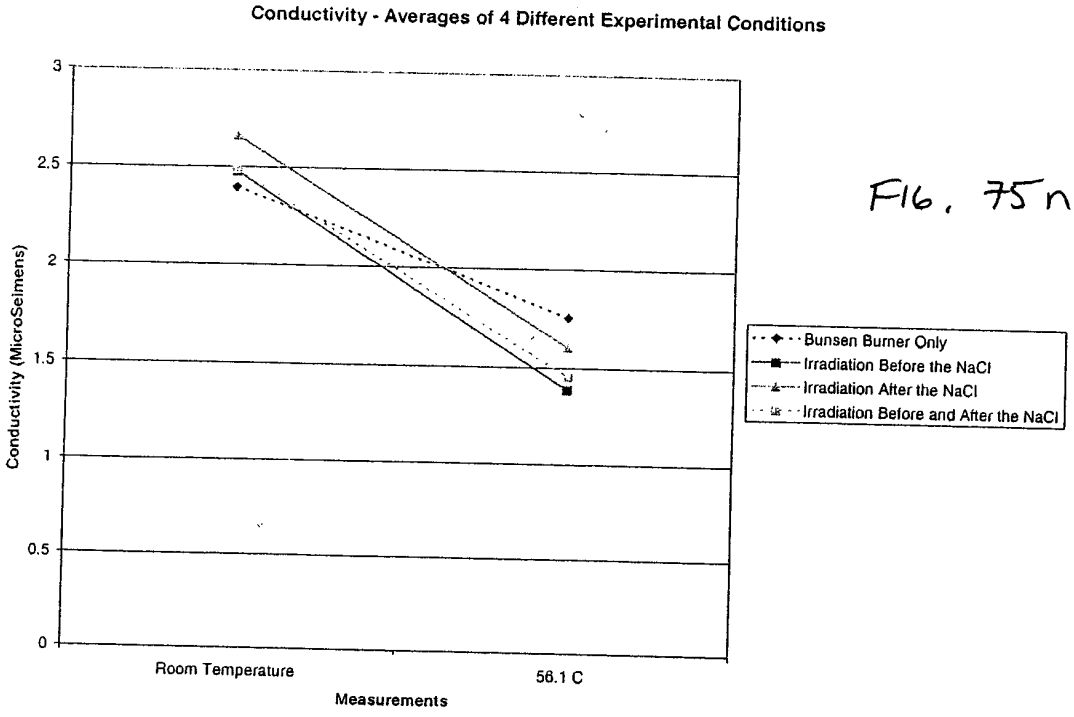


Fig. 75n

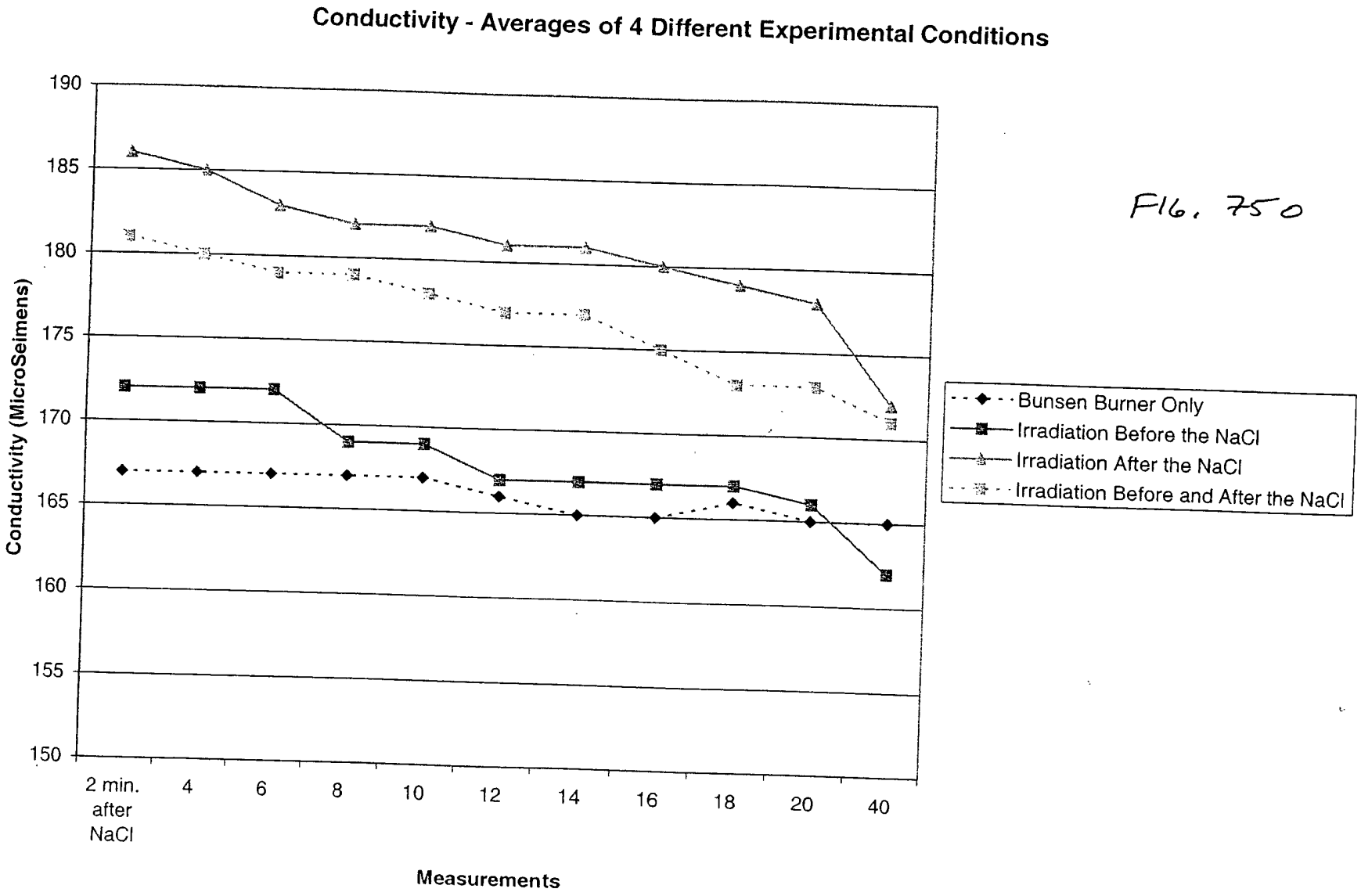

Conductivity - Averages of 4 Different Experimental Conditions
Conductivity (MicroSeimens)
190
185
180
175
170
165
160
155
150
2 min. after NaCl
4
6
8
10
12
14
16
18
20
40
Measurements
Bunsen Burner Only
Irradiation Before the NaCl
Irradiation After the NaCl
Irradiation Before and After the NaCl

FIG. 750

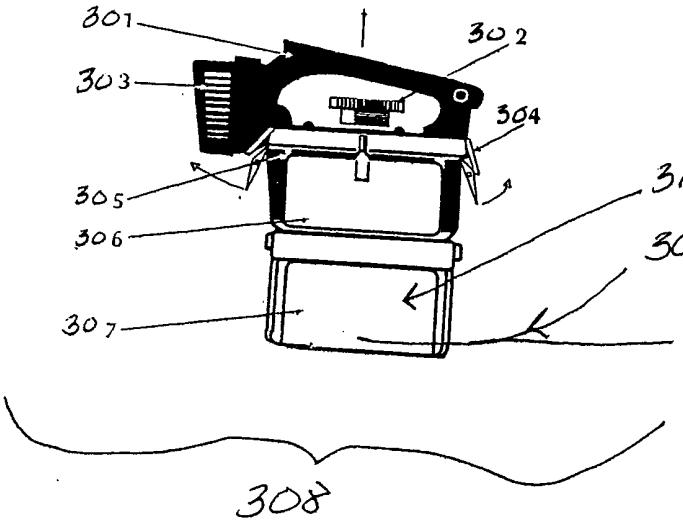


FIG. 76

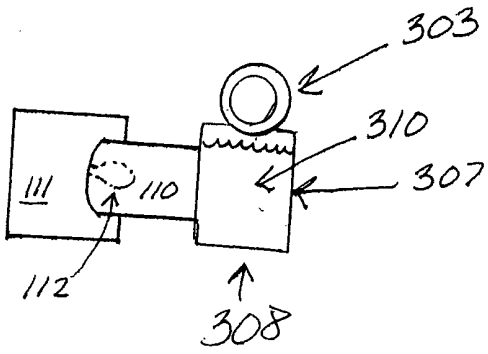


FIG. 77

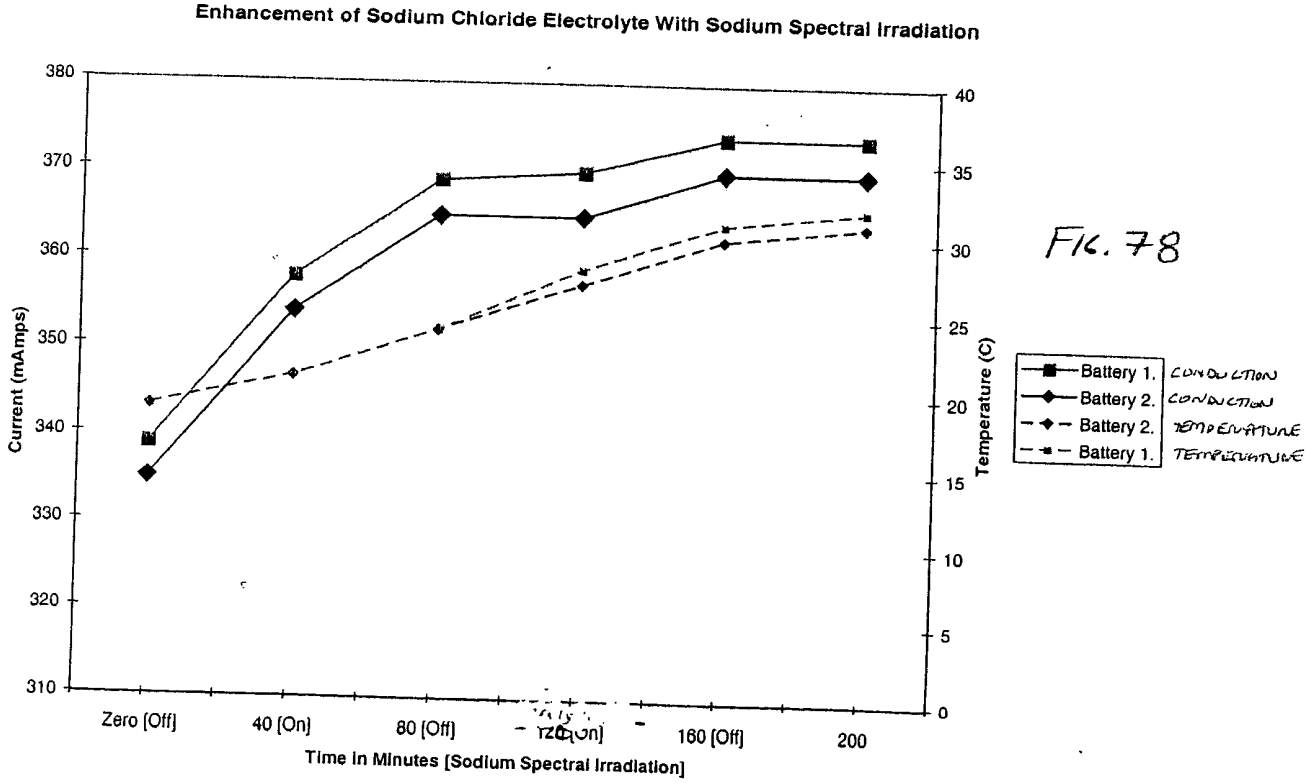


FIG. 78

II. Rate of Current Increase in Sodium Chloride Electrolyte Battery

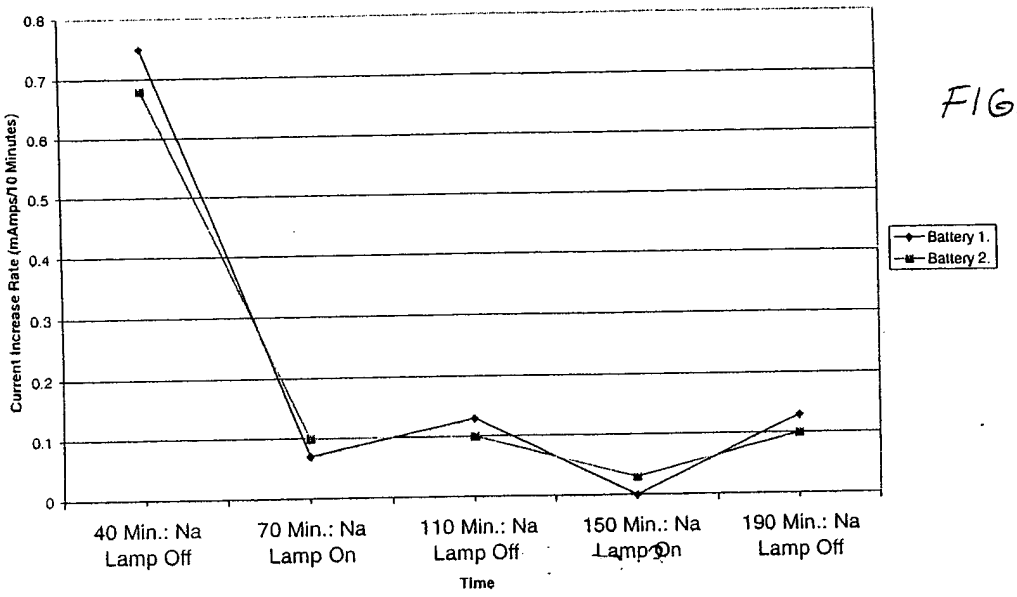


FIG. 79

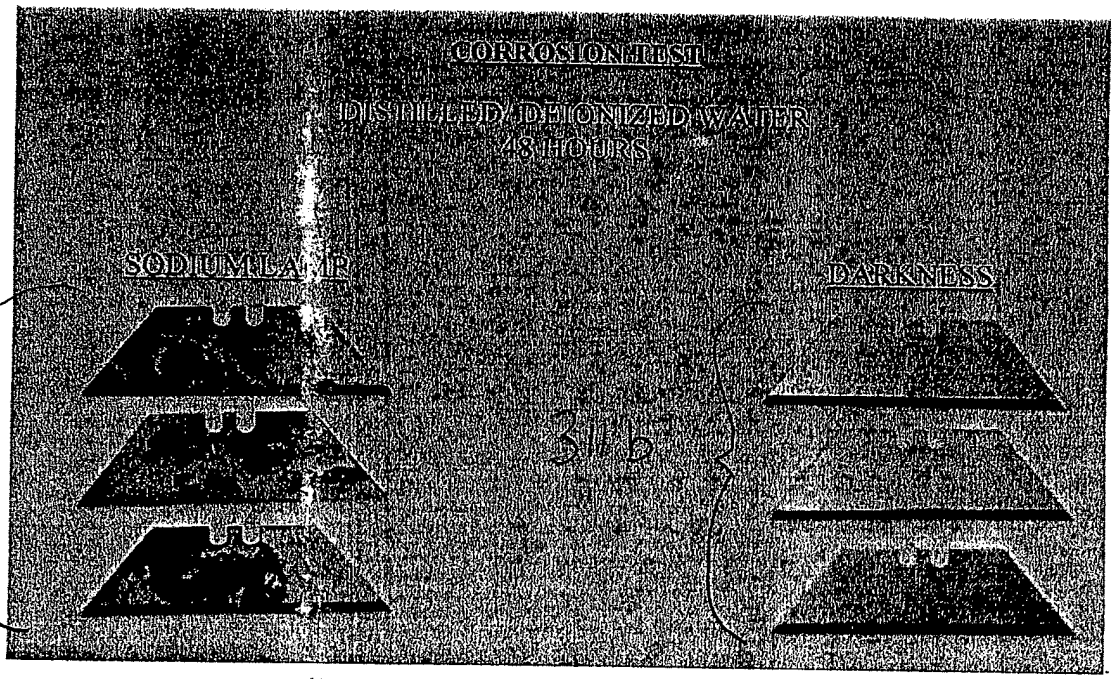


FIG. 80

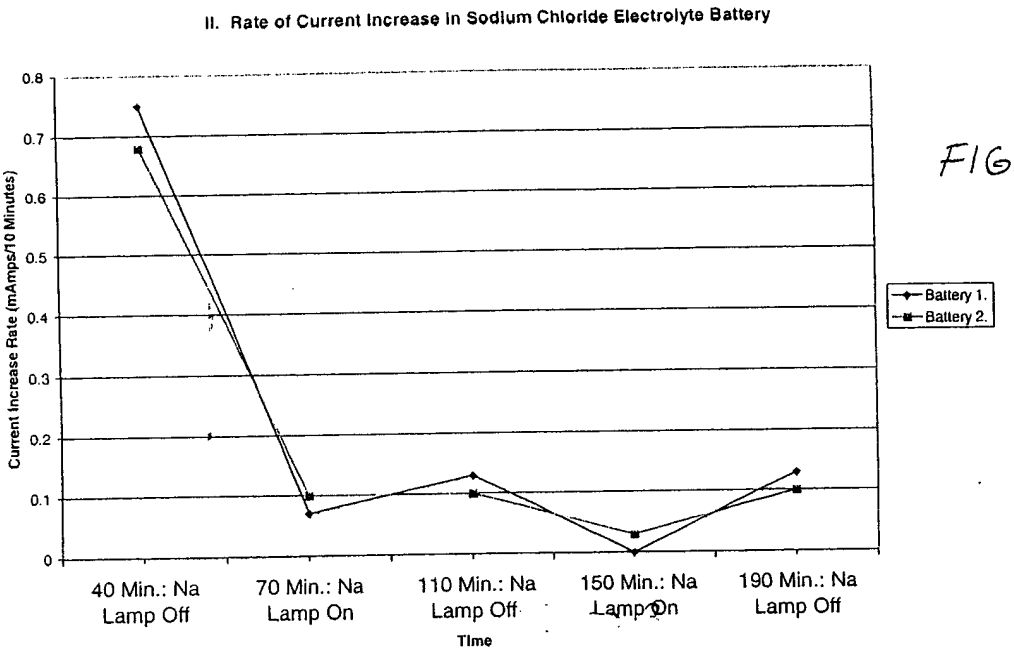

II. Rate of Current Increase in Sodium Chloride Electrolyte Battery
Current Increase Rate (mAmps/10 Minutes)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Battery 1.
Battery 2.
40 Min.: Na Lamp Off
70 Min.: Na Lamp On
110 Min.: Na Lamp Off
150 Min.: Na Lamp On
190 Min.: Na Lamp Off
Time

FIG. 79

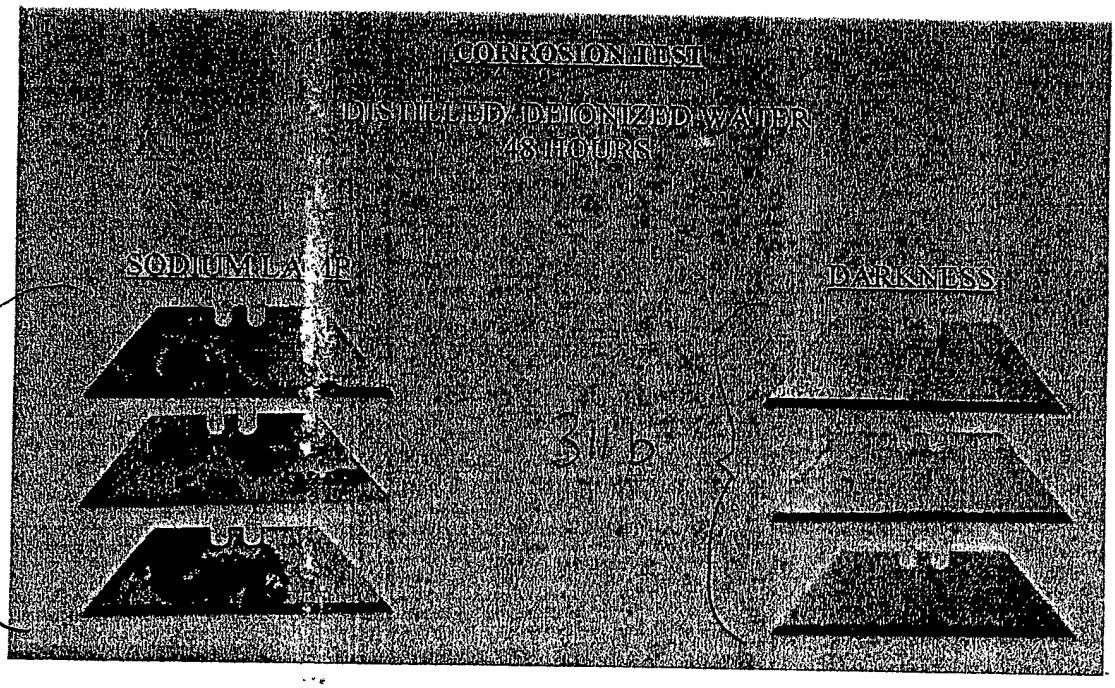
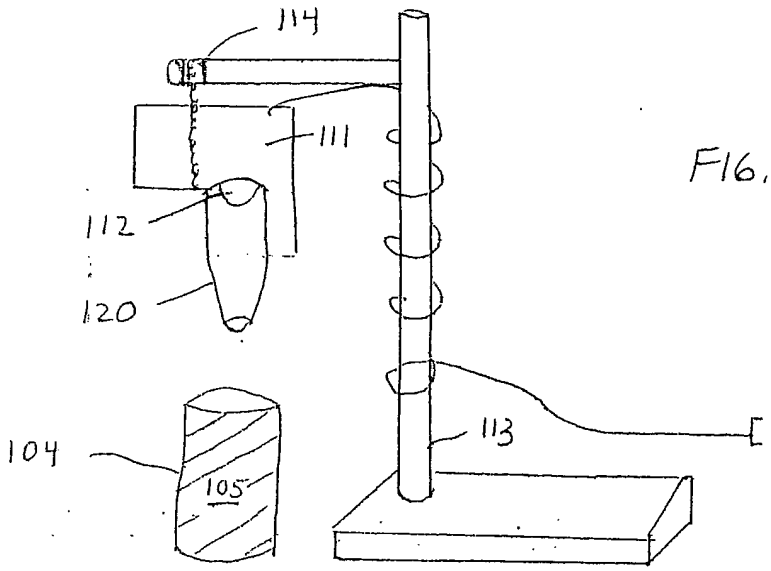

CORROSION TEST
DISTILLED DEIONIZED WATER
48 HOURS
SODIUM LAMP
DARKNESS
311a
311b

FIG. 80



F16. 81

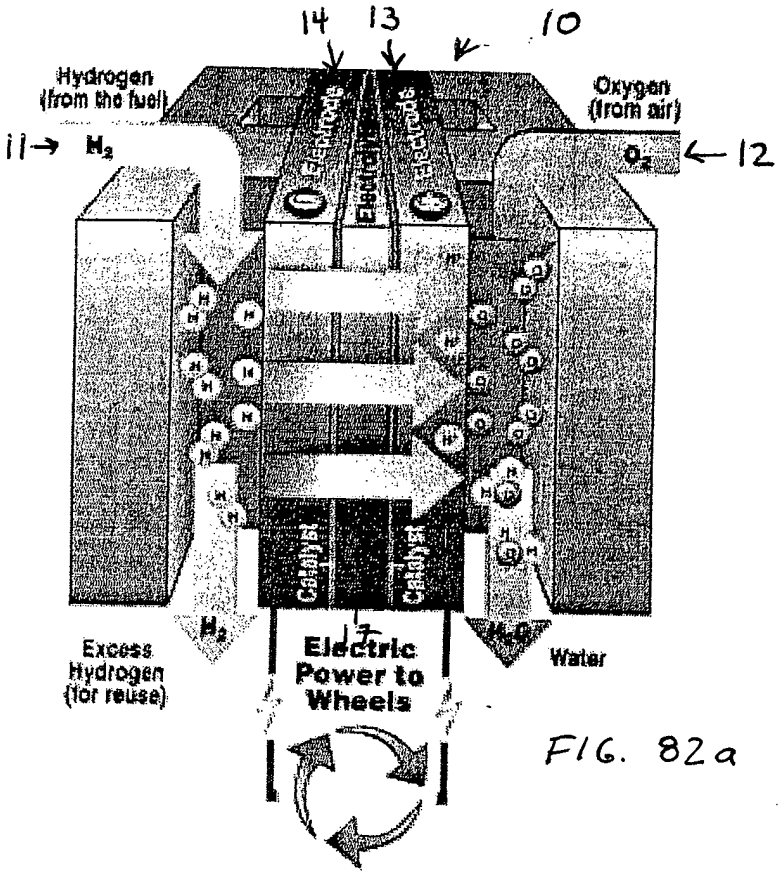
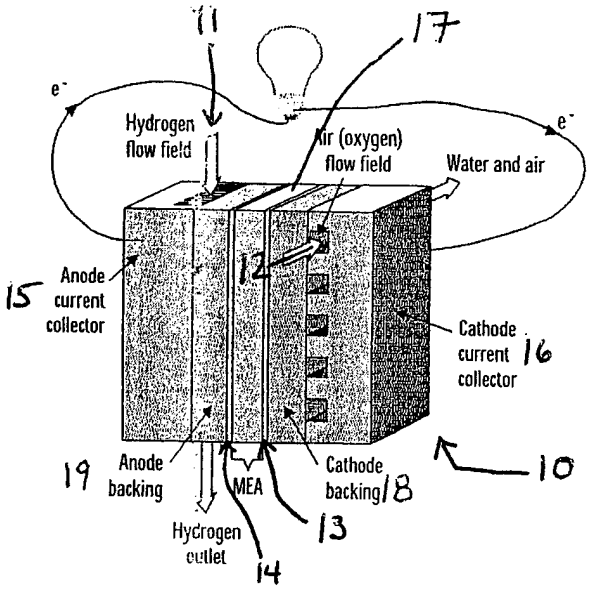


FIG. 82a



A single polymer electrolyte membrane fuel cell.

FIG. 82b

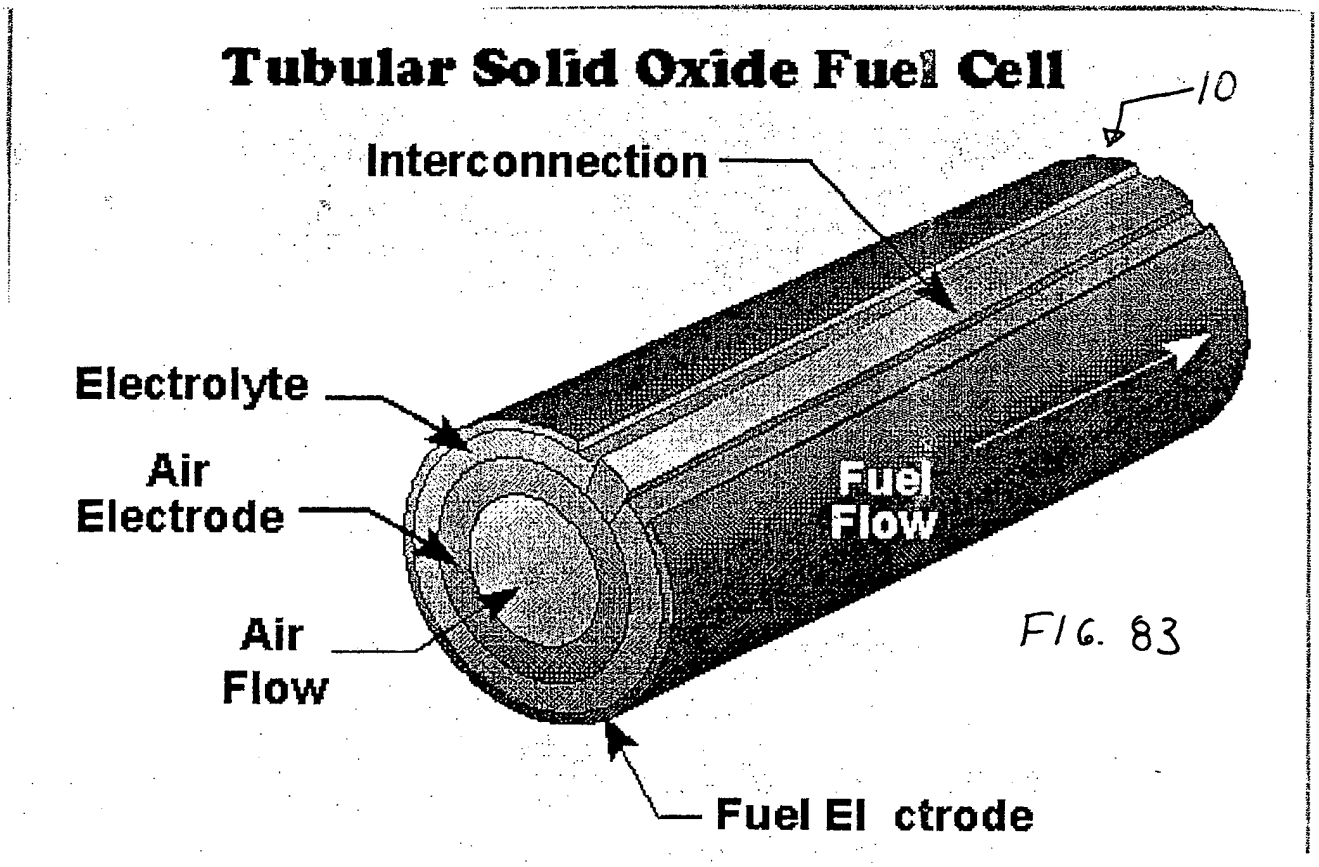
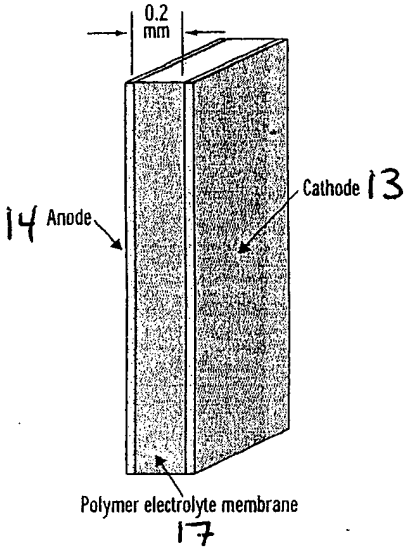


FIG. 83



Membrane/electrode assembly

FIG. 84

Membrane/electrode assembly with backing layers.

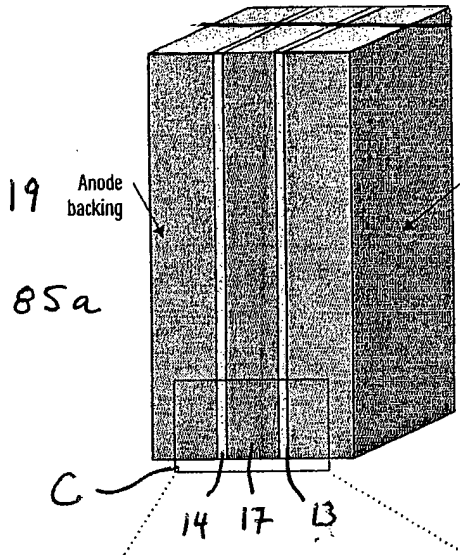
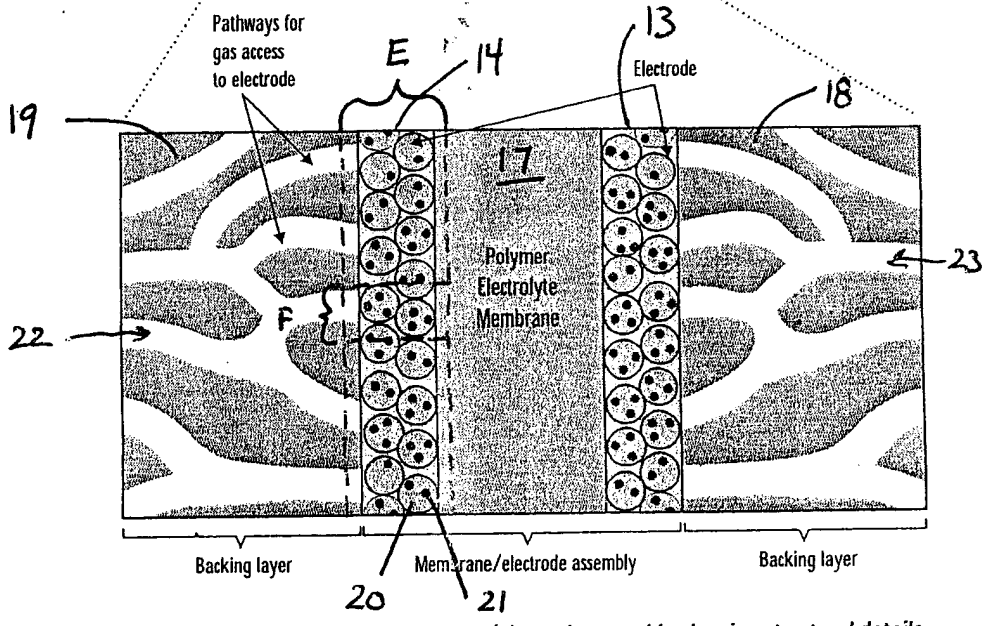


FIG. 85a



Enlarged cross-section of a membrane/electrode assembly showing structural details.

FIG. 85b

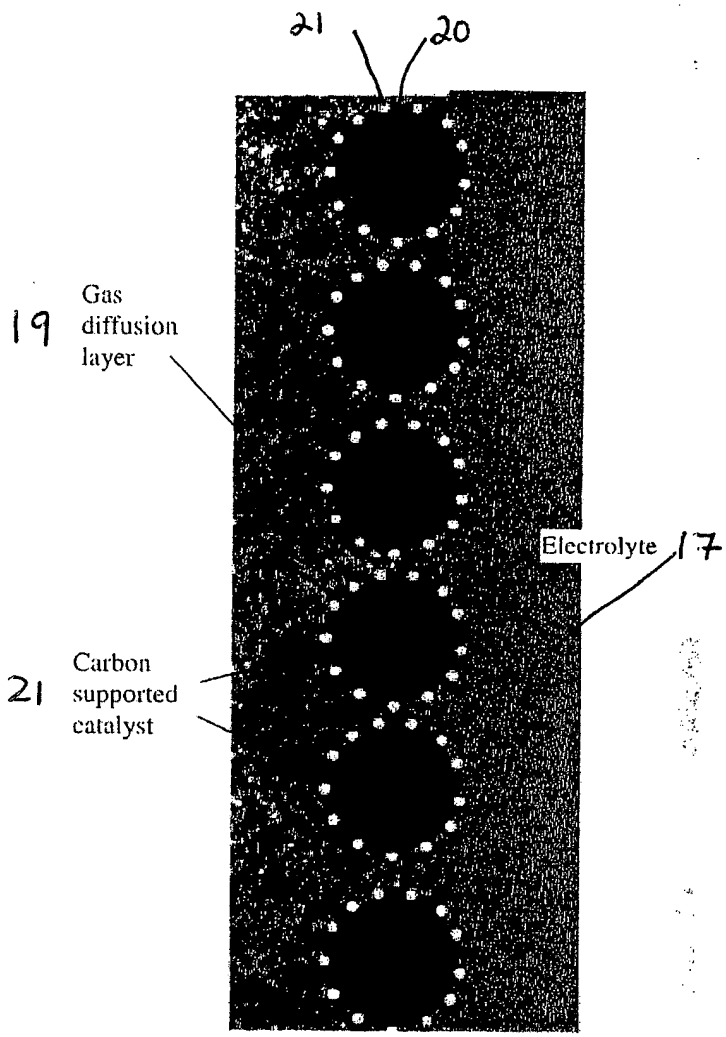


FIG. 86a

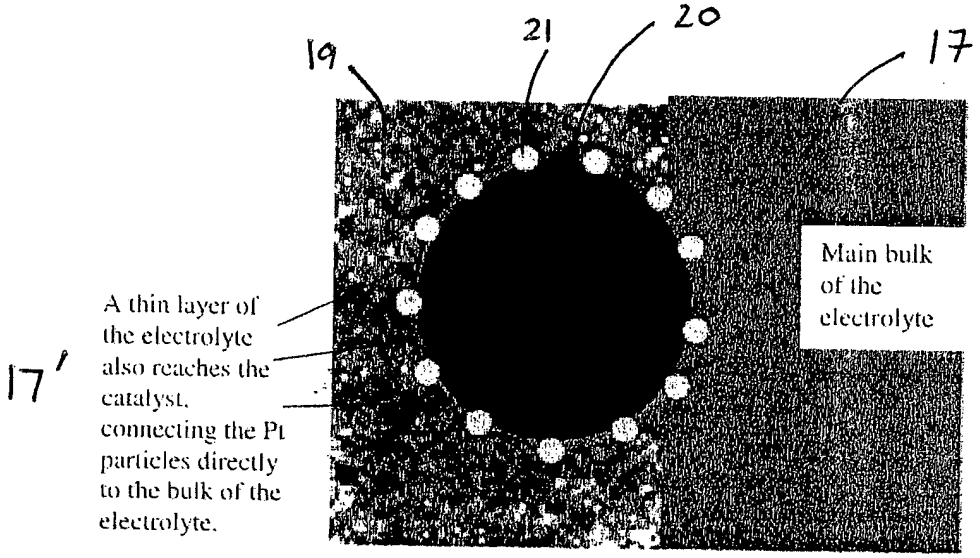


FIG. 86b

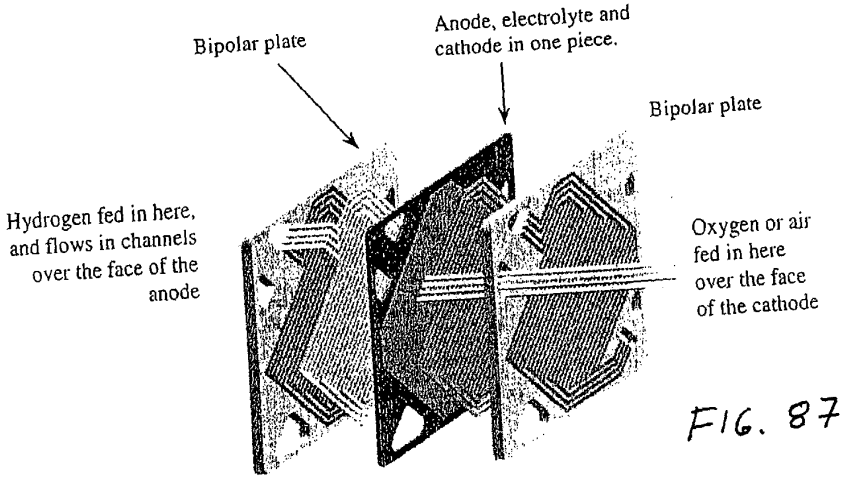


FIG. 87

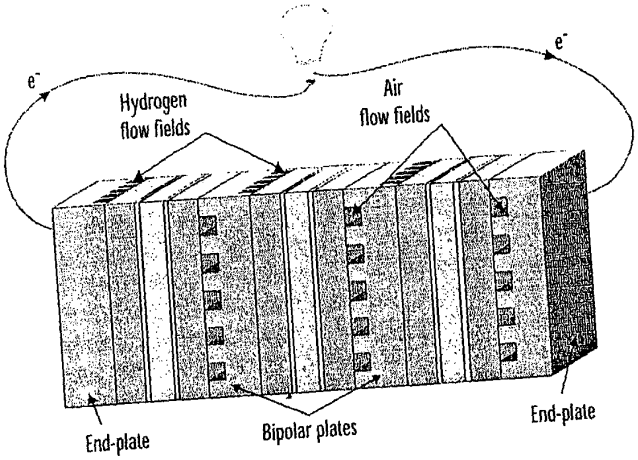


FIG. 88

A 3 cell fuel cell stack with two bipolar plates and two end plates.